March 1972

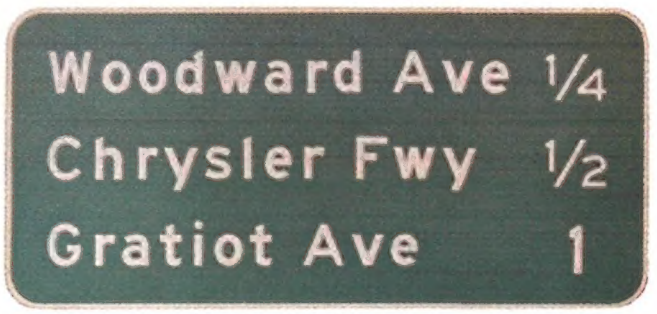
Smithsonian

A wintry-looking view of an area New Jersey is trying to save: the coastal wetlands (see p. 40)

It doesn't matter who you are. You can't get a Chrysler Imperial that hasn't had a shakedown in Detroit traffic.

ARTHUR GODFREY

Nobody, but nobody gets an unused Imperial. Every Imperial that Chrysler builds gets somewhere between twelve and fifteen miles put on it before it ever gets delivered. If there are any problems, Chrysler wants to find them before you do.



Each car is checked on city streets and freeways, in all kinds of traffic conditions. The test drivers listen for wind noise and check for rattles. They even inspect *under* the car: Things like the fuel line and brake line. There's a check sheet with more than 200 items that gets filled out on each car. Believe me, if it's not right, they don't want you to have it.

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March 1972

Smithsonian

Volume 2, Number 12, which marks the successful end of SMITHSONIAN's second year

Table of Contents

COVER: A wintry-looking view of marshland—a poetic prelude to an article on the coastal wetlands—which New Jersey has legislated to save (see p. 40)
Photograph by Farrell Grehan

4 The view from the castle: Secretary Ripley tells why we need the planned new Air and Space Museum

9 Short-lived phenomena: the volcano that didn't quite, pig droppings for locomotion, a new day for tall ships

14 Letters to the Editor

16 The billion-dollar traffic in illegal art—how it works and how worldwide cooperation might end it. The first comprehensive view of the extent of the scandal in Europe
By Dora Jane Hamblin

28 American Presidents and the style with which they shaped the success or failure of their policies; part one of a two-part article—from Washington to the dawn of the Franklin D. Roosevelt era
By Emmet John Hughes

40 New Jersey's new Wetlands Act grants a reprieve to vast tidal lands of the nation's most populous state
By John Hay, photographs by Farrell Grehan, who movingly records seasons in these valuable assets

50 Lessing Rosenwald, who has given the nation two matchless collections of master prints and rare books
By Meryle Secrest

58 Catching strands of barbed wire—many in Smithsonian's collection—recall the fences that tamed the West

60 Hypnosis: Many scientists use it but find it difficult to explain, and some say it doesn't even exist
By Madeleine Lundberg and Lawrence Massett
Illustrations by Michael Ramus

66 The California condor—known to Western Indians as the thunderbird—survives as a reminder of the Ice Age. A famous drama critic turns to eloquent natural history
By Brooks Atkinson

74 Book reviews

80 March events at the Smithsonian

84 Your happy taxonomist uses 39 words to say 'dog'
By Patrick Ryan

Smithsonian TV series: Colorado river exploration by John Wesley Powell, CBS, March 9, 9 P.M. EST

Texaco announces some good news for all living things on this earth.

If man continues to let pollution go unchecked, all of us, even creatures in the most faraway forests, will one day feel its effects. So, for all living things on this earth, Texaco would like to announce some good news concerning our environment.

At Texaco, we've created a new department for environmental protection. It's made up of Texaco people who are dedicated to finding ways to protect the earth, the air, and the water. This department will guide the Company's continuing efforts to help protect the environment, while Texaco provides the petroleum energy people need. We're all aware of the problems of pollution. We hope teaming up all our experience will help us find practical solutions.

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Secretary Ripley's comments

The view from the castle

America's finest Air and Space Museum is planned for 1976 to display and give meaning to a unique Smithsonian collection

This month the Congress of the United States will have the first chance in nearly six years to think seriously about a noble cause—the building of the nation's first appropriate National Air and Space Museum. Voted in 1966 to spread its wings on Washington, D.C.'s Mall, the museum died aborning in the spate of agonizing over the Vietnam War. Only last year, in the fiscal 1972 budget, did Congress respond to the bidding of the White House and revive the project.

It has been a long-held concept that somehow the United States, where so much of the pioneering in air and space has taken place, should create a public monument, a showcase in the nation's capital, to demonstrate this unique inventiveness of its people. All Americans can be proud of our skills in this realm.

No home is a better one from which to show off these skills than the Smithsonian, for many of our present technological triumphs were started in this Institution. Ours has been the hearth and home to much of the stimulus of what we all take for granted today—the sponsorship of invention and research in aerodynamics and astronautics. This Institution has played a central role in stimulation, in funding (in the early days of flight) and in the maintenance of tradition.

From Kitty Hawk to the craters of the moon, from Langley's "aerodromes" to Goddard's first rocket, from the National Advisory Committee for Aeronautics to NASA, we have faithfully kept a compact with Americans to support and promote interest, research and, above all, *understanding* of what was vital in sky and space travel.

Now we come to Congress with a mandate from the President to open a new National Air and Space Museum in 1976, the bicentennial year. Our new director of the Air and Space Museum, former Apollo 11 astronaut Michael Collins, says that the new structure will give the public a chance to assess past, present and future air and space programs, all under one roof. Here will rest the nation's permanent collection of significant objects relating to this tantalizing realm. Here will be a place for serious study by scholars.

The new building, designed by Gyo Obata, will stand opposite the National Gallery and have about the same dimensions as that beautiful creation. It will be of contemporary design, but will be in conformity with its surroundings. It will offer ample space for exhibits that will educate and inspire the estimated annual six to eight million visitors. It will use the most modern audio-visual techniques. A "Spacearium," for example, will give people the illusion of journeying into space. They will be introduced to such wonders as pulsars and quasars and the recently discovered organic molecules in interstellar space. And they will begin to comprehend the significance of what they see —and judge for themselves the relationship of Man to his universe.

Here will stand a window on the world to display our country's excellence in this new field. It is a proud tale of accomplishment. We must not fail in our quintessential mission to tell it to ourselves, our children and the world in this new building—a graceful complement to art and to the expression of imagination.

S. Dillon Ripley

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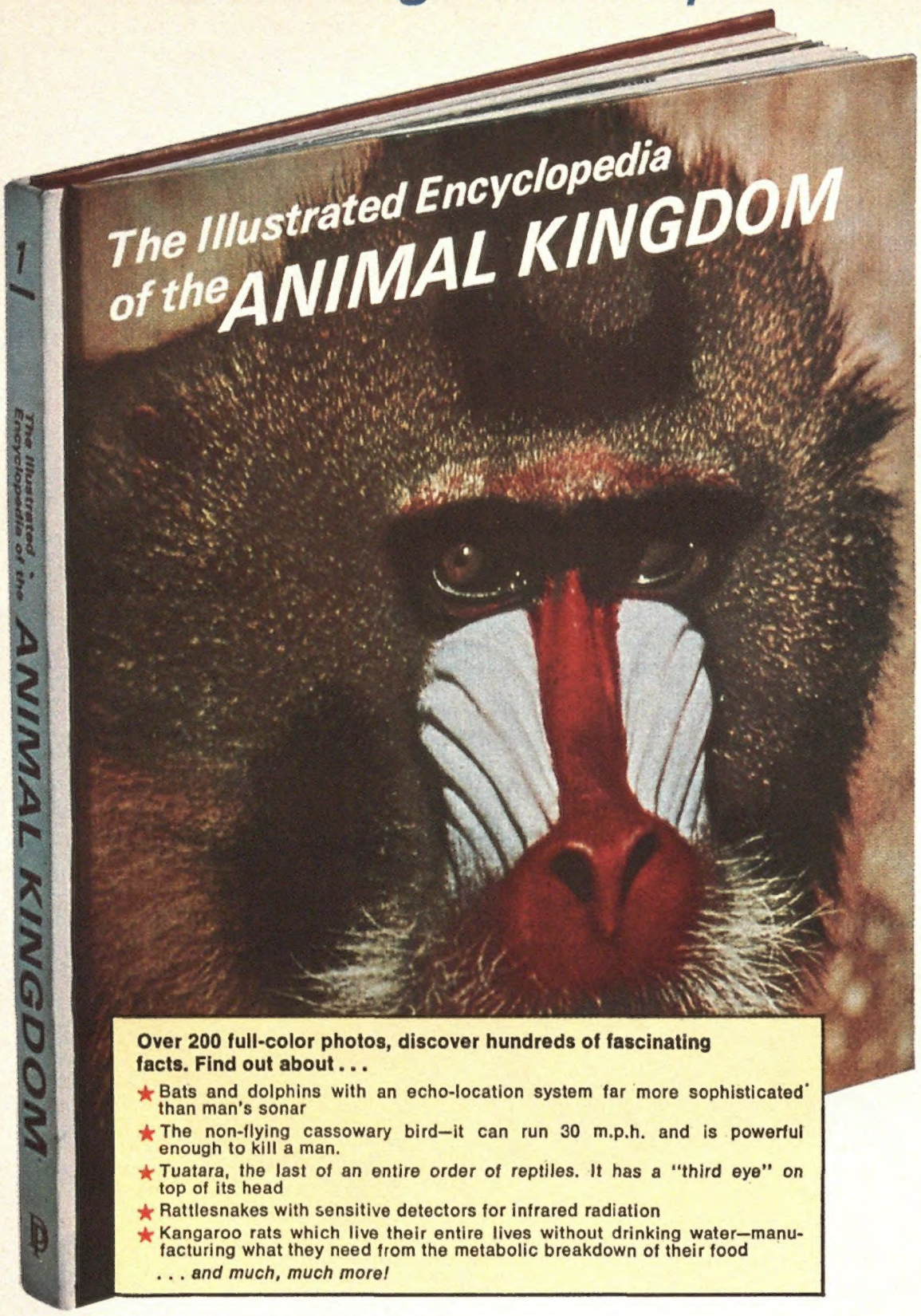

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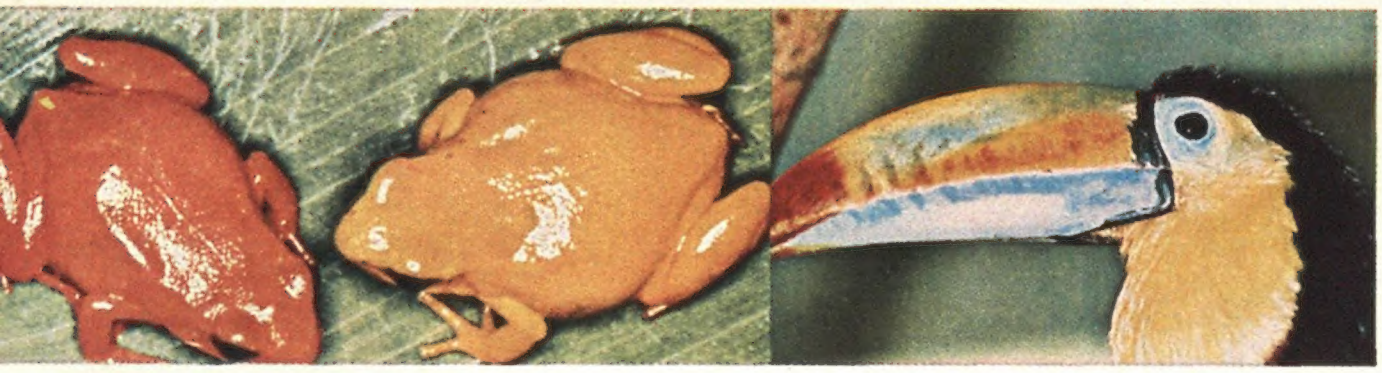

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Short-lived phenomena

DDT's whereabouts, a scheme for squareriggers (and one for cows) and the volcano that didn't quite

"Volcano Soufrière St. Vincent is in true eruption" said a cable received by the Smithsonian's Center for Short-lived Phenomena last November 22. And thus began a nerve-racking month for the West Indies island of St. Vincent.

In 1902, within the memory of very old men, the 4,048-foot volcano had spewed huge avalanches of lava down the cols and river gorges to the sea. A large part of the island was covered by lava and more than 1,000 people died.

Now Soufrière threatened again. Amid thunderous explosions, an island of black rock was emerging from the waters of the crater's lake. The water grew hot, its level rose and then began to fall. The authorities ordered the area evacuated.

Led by Dr. Haraldur Sigurdsson of the University of the West Indies, seismologists monitored the eruption's progress. They recorded earthquakes, though none was felt. In a dinghy, Sigurdsson took rock samples from the growing island: At the island's edge the water was boiling, evaporating away in great clouds of steam.

Later, on December 21, he and a colleague "went boating" again to take bathymetric soundings of the lake but, as they reported laconically to the Center, "unfortunately this survey had to be abandoned due to unfavourable conditions on the lake."

Towards the end of December the silica content of the lava was decreasing. In volcanic eruptions, generally, the most silica-rich products appear first when the risk of violent eruptions and explosive activity is greatest. The scientists predicted that an explosive eruption now seemed improbable.

At year-end, the island had reached 145 feet above the lake's water level and was

Geologists descend into Soufrière's crater as an island forms in steam below.

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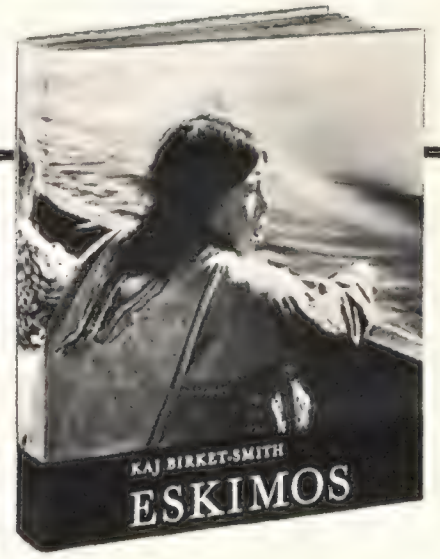

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still growing, though more slowly, and the inhabitants of St. Vincent greeted the new year with a qualified sigh of relief.

Blackbirds that did

The citizens of Scotland Neck, North Carolina, had a bad December, too, but they had no volcano to blame. According to the Center, some six million blackbirds arrived in 30 acres of mixed pine and hardwood near town. This is the same area in which they roosted last winter, and the annual invasion is not considered a blessing.

Last spring, the North Carolina Department of Conservation and Development sought to thin out some of the roost vegetation which, they hoped, would encourage the birds to go elsewhere. But the project had to be dropped when one blackbird-lover among the three landowners involved refused consent, with predictable results.

Where does all the DDT go?

The argument continues about DDT. There is a report that it has been banned in the Soviet Union, but in this country it is still in use, though selectively and in declining quantities.

The debate has flared again with no less than Norman Borlaug (who won the Nobel Prize for his work in fomenting the green revolution) decrying environmentalists who would deny DDT's benefits to the world's hungrier nations. Nonetheless, more stringent restrictions are expected from the Environmental Protection Agency, though no outright ban. And production is likely to continue: About 70 percent of the DDT produced in the United States is used overseas.

In a recent issue of *Science* magazine, three scientists from Brookhaven National Laboratory explored the question: Where does all the DDT go in nature? To begin with, when it is applied, a considerable fraction goes into the air. The bulk goes into the soil where it remains some four-and-one-half years on the average. Less than one percent of the DDT in the soil is carried off with the harvest to the dinner table. Even less is washed out of the soil by rainwater, though this is sufficient to contaminate local food chains almost immediately.

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WAS HO CHI MINH A BAD POET?

Written 30 years ago when Ho was a prisoner of Chiang Kai-shek, "The Prison Diary of Ho Chi Minh" stirs new controversies today. Two clashing translations, two vitriolic pro-and-con literary criticisms, and if you read Chinese, the original text and the chance to decide for yourself . . .

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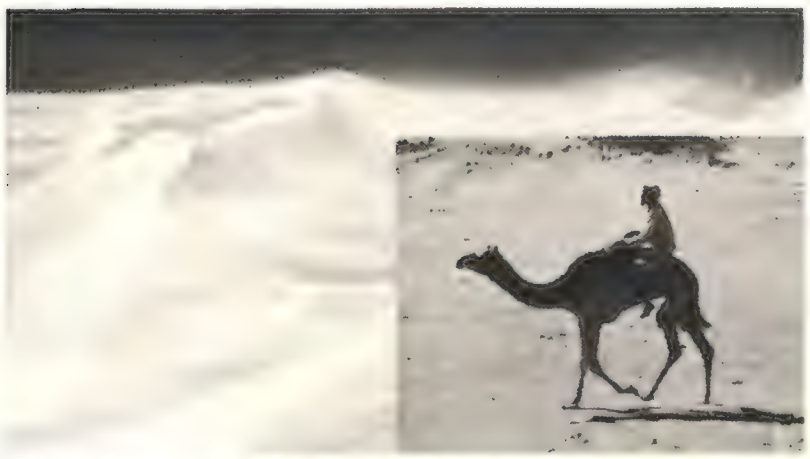

DID YOU KNOW THAT THE SOUTH POLE WAS ONCE IN THE SAHARA DESERT?

Despite fantastic discoveries in space, our own planet continues to amaze us. Scientific expeditions into the past have begun to confirm the most astonishing suspicions. A first-hand report from a member of the international team of geologists whose recent investigations in North Africa uncovered proof positive of this ancient polar area . . .

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In the aftermath of Attica, public attention, anger, and concern has been aroused as never before. What now? Goldfarb and Singer's book on U.S. prisons, written *before* Attica, describes the situation which made recent riots inevitable, predicts more to come, and suggests how to replace a correction system which fails to correct . . .

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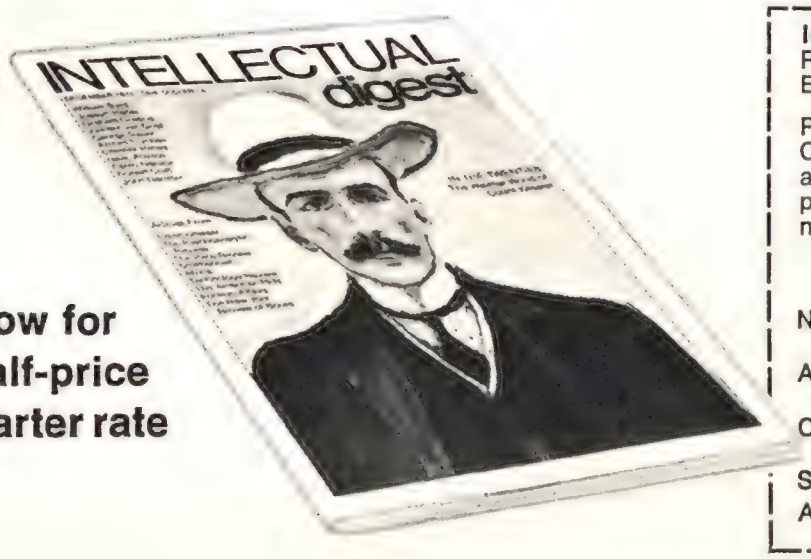

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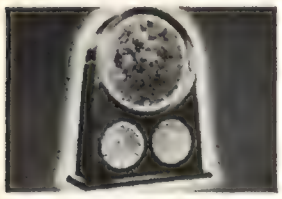

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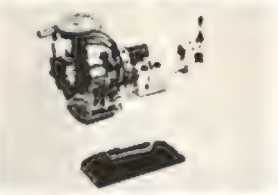

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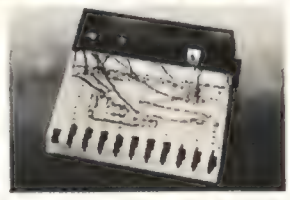

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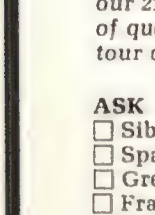

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mains in the atmosphere for four years, being washed out by rain and carried primarily to the oceans. Here, near the surface, it is available to oceanic food chains throughout the world for another four years before it is carried down to the ocean abyss.

An arresting finding of the Brookhaven scientists is that of all the DDT available to living organisms during these worldwide movements only an amount equivalent to 1/30th of one year's production is now circulating through the living food chain. Why so little? The authors suggest, "mere good fortune."

For breeders only

In order that some phenomena may be longer-lived, two British organizations (the Jersey Wildlife Preservation Trust and the Fauna Preservation Society) have organized an international conference the first three days of May to look into the techniques of maintaining and breeding endangered species in captivity.

More and more, wildlife conservationists are coming to the conclusion that for many species, from big cats to reptiles, the best hope is that breeding populations be kept in zoos and sanctuaries, ultimately to be returned to the wild. But the techniques of breeding wild animals are tricky; the conference will attempt to pool what is known and develop guidelines. Interested parties can write The Secretary, Jersey Wildlife Preservation Trust, Les Augrès Manor, Trinity, Jersey, Channel Islands, which is where the conferees will meet.

Very natural gas

Natural gas, the most attractive of the fossil fuels because it is the most pollution-free, is also in the shortest supply. The earth contains only a 50-year reserve. But it seems there are other sources of natural gas (methane).

Mr. Harold Bates of Devonshire, England, runs his Hillman on methane he obtains from chicken and pig droppings. Indeed, it is well known that decaying organic wastes yield methane spontaneously. Now Hinrich Bohn of the University of Arizona has suggested in *Environment* magazine that the technology is available for converting urban and agricultural wastes on a large scale into usable methane. The manure from a

feedlot producing 100,000 cattle, he suggests, could supply the natural gas needs for 30,000 people, thereby alleviating a burdensome problem of solid-waste management in the bargain.

The question arises concerning the fate of all the methane now produced spontaneously from the world's organic wastes. According to the same issue of *Environment,* balloon and rocket observations have shown that it goes up—apparently in quantities sufficient to reduce the stratosphere's ozone content. Since the ozone layer is all that stands between us and the sun's harmful ultraviolet radiation, there seems to be another reason beyond frugality to tap so abundant and renewable a source of natural gas.

One other source awaits truly inspired engineering: A scientist from the Department of Agriculture has estimated that the flatulence of domesticated cattle adds 85 million tons of methane to the atmosphere every year.

A new day for tall ships?

Some time in 1973, a four-masted windjammer will slip down the ways into the waters of a German harbor. No expensive toy of a nostalgic yachtsman, this square-rigged Dyna-Ship, as it is called, is a serious attempt by a Hamburg syndicate to break deep-water records for carrying freight.

As reported in *Rudder* magazine, the Dyna-Ship "has no standing or running rigging, sets sail automatically by computer and, theoretically, with the ability to sail fast in wind-whipped seas that would slow down the average freighter or bulk-carrier, can effect enormous savings to the shipping community." In tank tests and simulated runs, the yet-to-be-built ship averaged 12 to 16 knots, with top speeds of 20 knots. When diesel ships begin to slow up in Force 4 winds, the Dyna-Ship is just beginning to pick up speed. Carrying small auxiliary motors against the vagaries of the wind, the ship has more hull space for cargo than a diesel freighter and uses only 1/20th the fuel, thus also making it a largely pollution-free vessel.

By taking advantage of satellite weather forecasting to avoid the doldrums, and with computers instead of the old-fashioned horny-handed sailor, it appears that it *is,* after all, possible to return to a form of the good old days.

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Letters to the Editor

Alexandrian Museum

Dear Sir: I was very much interested in contrasts shown between the military and peaceful researches described in your articles on the Alexandrian Museum. This is a problem that is as old as the history of scientific research.

I wonder if future histories will refer to our age by saying, as your article said of the Alexandrians who devoted part of their energies to devising weapons in service of the state: "Their peaceful researches are far more entertaining, however, for these men had a fine sense of the charm of mechanism and spent much time devising animated tableaux, musical works of art and other delights."

Charles P. Forbes
Ann Arbor, Michigan

The land as it was

Dear Sir: In John Bakeless' article, "Our land as it was and is no more" in the January issue, he makes many good points on an important theme. He makes two errors, though, pertaining to the Indians.

He says, "The woods and plains Indians were migrants . . . ," and this echoes the arguments long used by the land-grabbers that the Indians recognized no homelands. How untrue this picture is as applied to most Indians, and especially those of the eastern woodlands and as far north as North Dakota. In these areas, the Indians were settled farmers and had been for more than 1,000 years before Jamestown was settled. They certainly worked the land as well as the initial European settlers worked theirs. Certainly the numerous archaeological sites scattered throughout the area attest to a settled population, and in the wooded eastern states there were no buffalo or caribou herds for the Indians to have followed. They did not become migrating buffalo hunters in most of the plains until after they got horses from the Europeans. Before, they, too, were farmers.

The article states: "There was perpetual raiding, killing, burning and general destruction." Again, this is a misconception. There is little evidence in prehistoric archaeology of violence among the Indians. It appears more likely that major fighting did not begin between the Indians until they got firearms and until Europeans began to push one tribe into territory claimed by another.

Howard A. MacCord sr.
The Archeological Society of Virginia
Richmond, Virginia

Author John Bakeless is in total disagreement, and he offers these points in rebuttal: "Woods and plains Indians were migrants. Even today the Canadian Ojibway move regularly between summer fishing, berry and wild rice terrain and their winter trapping grounds. On the other side of the continent, the Shoshones moved between their mountain fastnesses and the buffalo plains. As Meriwether Lewis found Shoshones afraid of Blackfeet even in Shoshone mountain lands, it is obvious the Blackfeet were also migratory. The Pueblos and Missouri River Indians, like the Mandans, made permanent dwellings. So did the Iroquois, after *they had steel axes to cut logs and had seen white men's cabins. But most Indians lived in tepees, wigwams or wickiups.*

"I have never tried gardening with a clamshell, stone or wooden hoe; but Indians simply could not work the land 'as well as the European settlers,' who had sense enough to bring steel spades and hoes along and soon had plows.

"It simply isn't true that there was little fighting till the Indians had firearms and the white men began to push one tribe into another's territory. Champlain, for example, witnessed typical raiding, fighting and torture of a prisoner by Indians who had no firearms then. The Iroquois terror extended from New England to the mouth of the Susquehanna and the upper Ohio. In my area of Connecticut the local Indian rule was: 'If you see a Mohawk, run!' The ancient Warrior's Path got its name from the war parties who continually traversed it."

Mr. Bakeless has a final tongue-in-cheek admonition to Mr. MacCord to "go and sin no more. Yours with a sob in the throat." Ed.

Dear Sir: I noticed the attractive photograph of wild prairie grass, accompanying your article on "Our land as it was," and it occurred to me that you might be interested in an extensive prairie grass restoration project we have undertaken at our biological field station.

The director, Dr. Peter Schramm, is using the project to show students the diversity and interrelationships of an ecological system. In addition, he pointed out recently: "What we may be finding out here is if Man can return life to the soil. If we can return the complex systems of life to the soil that existed when the first settlers came, then we will be able to insure productivity in the soil of the great grain-producing areas of the world, all of which were prairies at one time."

Dr. Billy W. Geer
Chairman, Department of Biology
Knox College
Galesburg, Illinois

Dr. Schramm inspects prairie grass

Botanic Garden

Dear Sir: I noted with much interest your photograph of a "hidden valley, still clean in California's Yosemite park." Actually it shows the Meadows Section of the Santa Barbara Botanic Garden.

Katherine K. Muller
Director, Santa Barbara Botanic Garden
Santa Barbara, California

Unfortunately, the photograph we re-

ceived from an agent was miscaptioned. The photographer lives in Santa Barbara and would not have made this error. Ed.

Milady's face

Dear Sir: Since reading "Milady's face—launched by a thousand jars," I've felt quite disturbed by its sexist nature. The view of author Patrick Ryan is one of head-patting, chin-chucking condescension. To tout women for spending their lives and fortunes on becoming desirable is unconscionable.
Jeannette Regan Garrigle
Willingboro, New Jersey

Kathmandu

Dear Sir: The article on Kathmandu was more appropriate for a cheap travel magazine than for yours. It displayed the writer's concern with the obvious and his complete failure to see the real sociological problem of European and American dropouts in Kathmandu. Though it may no longer be the mecca of the hard drug-pusher, the valley is still the Shangri-La for disenchanted, disoriented youth. Those quaint, cheap hotels and restaurants produce a constant line of hepatitis, dysentery and syphilis cases, whose victims have to be cared for, and sometimes buried, by sympathetic Nepalese and distressed foreign residents. Aside from the tragedy of decaying young people, there is the degrading effect on young Nepalese.
J. Anne Holman
Utah State University
Logan, Utah
History is one of SMITHSONIAN'S *interests and we consider Mr. Menon's account of one phase of Kathmandu's history to be unique and accurate. We welcome Professor Holman's added information.* Ed.

The frescoes of Thera

Dear Sir: A princely Minoan boxer of 1500 B.C.? My uneducated guess: two girls dying their hair.
Carl Haeberle
Surfside, Florida
As the article pointed out, it will take scholars years to determine conclusively the origins and significance of these finds. Meanwhile, scholars officially refer to this one as the "Fresco of the prince," but it is known more popularly as "the boxing boys." Ed.

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By Dora Jane Hamblin

The billion-dollar illegal art traffic—how it works and how to stop it

An alarming situation is complicated by national policies, inflated prices and the touchy question of 'Who owns the past?'

On the night of August 30, 1971, thieves removed from the parish church of Pieve di Cadore in northern Italy a 16th-century painting known as the *Holy Conversation,* by Titian (page 19). Its value was incalculable. It was the only painting left in Pieve di Cadore by its most famous son, and into it Titian had painted his daughter Lavinia as the Virgin, his brother Francesco as St. Andrew and himself as a shepherd. When police responded to the priest's alarm the next morning, they found 13 other paintings missing. The thieves had also drunk up most of the Communion wine.

Less than a week later, in Venice, two big panels of St. Sebastian and St. Vincent Ferrer, done by Giovanni Bellini ("Giambellino"), were wrenched from their heavy metal brackets in the basilica of SS. Giovanni e Paolo, known as "the Pantheon of the Doges" (pages 26-27). Also missing: a triptych by the 15th-century master Bartolomeo Vivarini.

Then, in quick succession, midnight marauders took a large number of icons and Renaissance and Baroque paintings from the Rome apartment of opera singer Boris Christoff, and another Vivarini and two Maffeis from the church of St. Thomas à Becket in Padua. By September 16, Italy was so resigned to the latest epidemic of art thefts that one headline said simply: "And now, Tintoretto." The Tintoretto had disappeared from a village church in the vicinity of Padua.

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Though widely considered the nation most heavily victimized by art thieves, Italy was not alone. During the same few weeks, a Vermeer, on loan from Amsterdam's Rijksmuseum, was cut out of its frame and removed from the Brussels Palace of Fine Arts; a church in Mechlin, Belgium, was robbed of $1 million in paintings, including a Rubens; thieves made off with a Rembrandt and an El Greco from a gallery in Zagreb;

Both: Courtesy Rijksmuseum, Amsterdam

Vermeer's *The Love Letter* (opposite) was stolen from the Brussels Palace of Fine Arts on September 24, 1971, and found under a mattress on October 6, badly damaged (above)—the thief had reduced its size in cutting it out of the frame and some paint had flaked off. Ransom was asked for Bengali refugees.

Illegal art traffic

and the Queen of England and her subjects lost a painting from a gallery on the grounds of Buckingham Palace and another from Hampton Court.

Many of these masterpieces were eventually recovered, but nothing has been seen since of paintings by Hans Memling (page 21) and Masaccio, which were stolen in broad daylight from Florence's Palazzo Vecchio in March 1971, nor of the Caravaggio that vanished in Palermo in October 1969 (page 20). Works valued at a conservative $50 million are stolen every year in Italy. In the first eight months of 1971, at least 3,000 pieces (and many thefts are not reported) were taken from the nation's museums, churches, archaeological sites and private collections. The difference between Italy and other art-rich nations is merely one of degree.

This alarming wave of art looting is not the result of a wholesale collapse of morality on the part of museums, art dealers or reputable collectors. All of these—plus thieves—have been around for centuries. The true villain is the explosive inflation in the market value of art and antiquities, and their reputed stability as investments. Paintings and Neolithic goddesses are better than bags of gold or gilt-edged securities today, and every time a good item comes into the arena, legally or illegally, the art market boils like a pool of piranhas.

"The only new element in the problem is that dealers no longer serve real collectors, they serve speculators," says Hughes de Varine-Bohan (page 24), director of the International Council of Museums (ICOM) in Paris. "Look at the art investment funds. You can buy stock in a collection of paintings whose value in ten years is virtually guaranteed to increase ten times. And that collection is kept in a bank vault. Think of the consequences."

In many countries, notably Germany, paintings are eagerly accepted as collateral on loans; they, too, vanish into vaults, often with no particularly meticulous check on their original provenance. Naturally, as prices rise, scruples slip—and stolen art is a particular bargain. The thieves are ill-paid to begin with, unscrupulous dealers wish to move "hot" material fast, and a collector-investor with good contacts can buy a painting or an artifact at a fraction of its real value.

A rise in the general public knowledge and appreciation of both art and archaeology has compounded the problem. For example, in the autumn of 1971 a nine-year-old girl informed the director of the Roman Museum in South Shields, England, that one of his coins was a fake. She knew, she said, because she had seen the original coin in her father's collection. The embarrassed museum discovered that its coin was a replica handed out by a soft-drink firm.

All nations have laws against theft and all have some kind of legislation to protect their national treasures, but many of these laws are so flagrantly violated as to become a joke. No two nations approach the problem in precisely the same way. Punishment ranges from a one-to-six-year jail term in Italy (applicable equally to thefts from a national gallery, from Pompeii or from the local supermarket) to summary execution in Iraq. Even in Britain, a 61-year-old truck driver was found guilty six years ago of having stolen the *frame* of a Goya portrait of the Duke of Wellington, but not guilty of having stolen the painting itself owing to a legal technicality.

Loopholes for almost everybody

Furthermore, most national regulations forbid the *ex*port of valuable art but not its *im*port, a self-serving legal oversight which makes it hard for the victim nation to get its own back. In almost all countries the purchaser of a stolen work of art is immune from punishment unless it can be proved that he knew it was stolen when he bought it. In 1968 six paintings disappeared from the Lord Chamberlain's office at St. James's Palace, London, and were not missed until they were put up for sale at an auction at Christie's a year later. While the works were being unpacked, somebody noticed a mark on the back which indicated that they had come from the Royal Collection. Christie's notified the police and the paintings were reclaimed. The dealer who had brought the paintings to Christie's was presumed to have been innocent, and so he was neither prosecuted nor stigmatized; he was simply out about $2,000 when the works were returned.

This poses an agonizing problem for both museums and serious collectors. A stolen painting or a fine marble comes on the market in, say, Switzerland, which is the primary European clearinghouse for such goods. A dealer offers it for sale, usually after having

Sta. Maria Nascente, Pieve di Cadore

provided it with some sort of vague pedigree or else having held it for several years until the furor over its disappearance has subsided. Even if he has some misgivings about the work's provenance, what does the museum director or the collector do? "If I buy the thing, I'm a crook," says one British museum official. "If I don't, I'm a fool. Some other museum will snap it up and my collection remains static while the other chap's grows."

Some paintings are simply too well known for any but an idiot to steal, but there is a vast gray area of fine but little-known works which move into the international market through three main channels.

The first is a fairly straightforward series of sales from thief to middleman to dealer to buyer, occasionally on a commission basis. This may well have been the case with a 13th-century Madonna stolen from the church of Santa Maria del Popolo in Rome on the

Titian's *Holy Conversation* (top) was stolen the night of August 30, 1971, and recovered by police (below) on September 16 after a wild chase through the streets of Padua. Four men and two women were arrested.

night of July 26, 1970. The church was being repaired at the time, and so the thieves simply climbed the exterior scaffolding, broke a window, lowered themselves inside with a rope and made off with the Madonna. She was found less than a month later in the Netherlands, after the police had bribed a middleman who put them on her trail.

In a similar case, a young seminarian hired as a clerical assistant at Milan's celebrated Ambrosian Library in 1965 was persuaded by a friend to steal a small painting on copper by Jan Brueghel. The little painting moved through underground channels to Paris and on to New York, but it was too well known to be sold. Eventually it was returned to Milan, where in the meantime the seminarian-clerk who stole it had been fired and then rehired. Apparently he hadn't learned his lesson. Again he was approached by his friend, and this time he removed one of the 401 pages of Leonardo da Vinci's famous *Codex Atlanticus,* a collection of 1,700 designs by Leonardo. The thief simply substituted a fake for the original and gave the latter to his friend. The page ended up in Florence, in the hands of a restorer, and then was passed to a dealer who had a buyer ready. It would certainly have disappeared from Italy had not the young thief, belatedly hauled in for questioning about the Brueghel, confessed all. The Leonardo drawing was returned discreetly, in an ordinary envelope marked "Printed Material," mailed from Lugano, Switzerland, to Milan.

Wheeling and dealing

The second channel is far more complex, moving from thief to dealer to very fancy hanky-panky involving rigged auctions, secret hiding places and international wheeling and dealing. Such was the case of the Madonna di Cossito, an exquisite 13th-century painting on wood stolen in 1964 near Rome. Thieves took it to Milan, where art restorers made minor alterations in detail to make it more difficult to recognize. From Milan it went to Switzerland to a dealer who also happened to be a director of an auction company registered in Liechtenstein. The camouflaged painting was duly listed in the auction house's catalog and was purchased by a man who knew exactly what he was buying. The auction, however, gave the painting a pedigree—and gave the buyer a cover. He could always say that he bought it, innocently, at a public auction.

Some time after this, the painting was described and offered to a New York dealer, who asked to see a photograph of it. The photograph made him suspicious, so he got in touch with Europe's "007 of the arts," Dr. Rodolfo Siviero of Italy. Siviero, who has the resounding title of Minister Plenipotentiary and chief of the Italian Delegation for the Recovery of Works of Art,

Oratorio di S. Lorenzo, Palermo

The Nativity, Caravaggio's last known painting, was stolen from Palermo in 1969 and is still missing.

has worked at recovering stolen Italian art ever since the middle of World War II. He asked the New York dealer to try to find out precisely where the painting was. This information was not readily available, but the "owner" was eventually traced to Punta del Este, a seaside resort in Uruguay. He said he would sell the painting for $337,500, although its estimated true value was $1 million. The New York dealer pretended great interest and was informed that the painting could be examined in Zurich by an expert of his choosing. The "expert" who turned up to examine it was, of course, Rodolfo Siviero, who seized the painting and returned it to Italy.

Channel three, less often used, is the direct and dangerous illegal sale of a known and catalogued work from a dealer to a reputable museum or collec-

tion. Such was the now-famous case of the "Boston Raphael" (page 22). The Raphael had not been stolen. It had hung for years on the walls of the aristocratic Fieschi family of Genoa, its legal owners, and had long since been classified as a national treasure to be kept in the country. In 1947 a member of the family sold it to an Italian dealer for a reputed $1,000. The dealer held the painting, officially titled *Portrait of a Young Girl* and believed to have been of Eleonora Gonzaga, for 20 years. Then, quietly, he put it up for sale at a hugely inflated price.

In 1969 the Boston Museum of Fine Arts acquired the small painting and triumphantly unveiled its prize to its public (see SMITHSONIAN, July 1970). Almost instantly the Italian government, prodded by Siviero, demanded its return. In the uproar, the U.S. government impounded the painting on a technicality—it had in effect been brought into the United States without a formal customs declaration. In September of 1971, under pressure from both governments, Boston gave back the Raphael and the Italian consul in Boston hand-carried it home in a diplomatic pouch.

"The very highest morality"

Art sleuth Siviero, having twisted every arm in sight, was disposed to grateful eloquence. "Boston and America have given an example to the world," he said. "This is a step of the very highest morality and all the world of art and humanity should be grateful."

On the basis of some of Siviero's other revelations, it should indeed. He is quoted in the September 19, 1971, issue of the Italian magazine *Epoca* as saying: "A Madonna and Child of Francesco di Giorgio, stolen from a collection in Florence, is regularly on show in the gallery of Baron Fritz von Thyssen in Lugano. A Crucifixion by Simone Martini, which disappeared from a Pisa gallery, is in the home of an English broker. Frescoes of the 12th century, detached from a Tuscan church, are in the house of collector and dealer Elie Borowski in Basel, Switzerland."

There are also, it seems, some very good French 15th-century frescoes in customs in Belgium. They came from a church in southeastern France which had been deconsecrated during the Revolution, but which, because of the works, had been classified a historical monument in 1934. An elderly lady bought half of the church, a peasant the other half. The latter plastered over his portion, and was astonished about ten years ago when a strange man offered him $300 for his "wall" and removed it, plaster, fresco and all. The haul went first to a dealer in Paris, then to a Belgian collector. Two years ago the Belgian decided to sell it and a museum in Canada bought it. It was only then that an alert customs man took a hard look and called Interpol, the international police force, to inquire about the matter. French authorities identified it as a national treasure, but the antique dealer had died, the peasant didn't want to have to give back the $300, and so the frescoes remain in Belgian customs until some judicial agreement can be reached.

Palazzo Vecchio, Florence

Also unrecovered: Memling's *Portrait of a Gentleman,* taken from Florence's Palazzo Vecchio a year ago.

It was not always thus. When Thomas Bruce, seventh earl of Elgin, moved several tons of fifth-century B.C. marble carvings from the Parthenon to the British Museum, there was no outcry whatever. It is true that there was a hue and cry over Napoleon's removal to the Louvre of art works from the territories he conquered, and most of them were returned after his downfall, but not those tourist favorites, the Victory of Samothrace and the Venus de Milo. Until the end of the 19th century, all the great museums were nourished by royal or private collections originally amassed for their owners' personal pleasure; nobody bothered much about where the paintings or the artifacts had come from. By the time the United States got into the museum business, things had become a bit more complicated.

Relentless pursuer of missing treasures, Rodolfo Siviero proudly shows the "Boston Raphael" after it was returned to Italy in September 1971.

Interestingly enough, what most Americans consider an enlightened tax exemption law for private donors who give items to museums is sharply attacked by many Europeans. They feel that it contributes mightily to the upward spiral of art and antiquity prices, that it puts Europeans at a disadvantage in the inflated market and that it actually encourages shady dealers and illegal exports. Director Varine-Bohan of ICOM confesses that "it gives me nightmares."

"Mr. Smith in 1960 buys an African mask for $1,000," he explains. "In ten years it is worth $10,000. If he gives it to a museum of primitive arts, he can deduct $10,000 from his taxable income. If he is a rich man, he might be in the 70 percent bracket, and if he sold the mask for $10,000 instead of giving it to the museum, he would have to pay a tax of $6,300 on his profit. So he is really giving the museum $2,700, plus the $1,000 he originally paid—a total of $3,700. And the U.S. government makes him a gift of $6,300. In countries which have no such exemptions, such as here in France, there is much less traffic."

In the last two years both M. Varine-Bohan's organization and UNESCO have made strenuous efforts to bring some order out of the international mess. There is, of course, a limit to the sheer amount of magnificent art and artifacts in the world, and the struggle for their physical possession has set nations, institutions and individuals against each other in a billion-dollar tangle of theft, smuggling, bribery, wanton destruction and sometimes murder.

In November 1970 member nations of UNESCO voted overwhelmingly to adopt an international "Convention on the means of prohibiting and preventing the illicit import, export and transfer of ownership of cultural property." One of its key articles would establish a sort of passport for cultural items properly sold, and would make it illegal for museums and institutions to acquire them without this certificate. Other articles would require the signatory nations to prohibit the importation of all stolen items and to facilitate the restitution of any that do slip through. In the maneuvering which preceded even this rather mild convention, however, there was far less enthusiasm on the part of nations like the United States, Britain and Germany than there was from the likes of Italy, Greece, Turkey and Mexico—the "haves" of the art and antiquities world. One full year after its adoption the Convention had only two signers, Ecuador and Bulgaria, and its provisions for control are binding only on states that ratify it.

The primary fears of the United States and others were that (a) a welter of restrictive laws in the aroused "have" nations would halt the normal and desirable flow of cultural materials around the world, and (b) somehow the "haves" would find a way to make them give back treasures which have reposed for years in museums outside their countries of origin.

There is in this area an enormous difference between paintings and archaeological treasures, and it

can be illustrated by the plight of the Boston museum. The Raphael had been known and documented for centuries, and the museum finally yielded it under a gentlemen's agreement with the Italian government. Boston has adamantly refused, however, to return a now almost equally famous "gold treasure" of pre-Bronze-Age jewelry which it also unveiled in the spring of 1970 and which Turkey hotly contends belongs to her. The collection was purchased in Switzerland by a patron of the museum and presented as a gift. Art historians, archaeologists and exhaustive tests might indicate stylistically that the pieces came from somewhere in Turkey—or they might not. As it is, the pieces simply have no pedigree, no record. The UNESCO Convention would be powerless to resolve this contretemps even if it were in effect.

There is virtually no limit to the resourcefulness of archaeological thieves, or to the size of the items they are able to ship out. In 1966 alert customs officials in the Port of Bombay halted 80 tons of "agricultural machinery" which turned out to be an entire dismantled Indian temple being sent to a buyer abroad. The contents of an entire Mycenaean city vanished from Cyprus, and thousands of tombs on the island were looted, while Cypriot officials were busy trying to solve the political crises and disorders of the tiny state.

More effective than the UNESCO efforts to halt such traffic might be the approach of ICOM, with its membership of 3,000 institutions in 75 countries. ICOM largely ignores national governments and goes straight to the individual institutions, asking them to sign a set of ethical rules drawn up in Paris in April 1970. Among them: No item should be acquired without full documentation; objects should never be accumulated solely for their *commercial value* (author's italics); and acquisitions should be made in strict observance of both the laws and the interests of the country from which they are obtained. In such head-to-head ethical bargaining, a Turkish museum and an American museum might be able to work out a compromise and exchange. Yet even ICOM has no present intention whatever to impose sanctions on institutions which wind up with stolen merchandise. "If we did," said one official, "we wouldn't have any members left."

An unresolved problem

Underlying all the anguish and doubt is the difficult question of just who owns the past. The painters and sculptors who created the works will not come again, nor will the Hittites, the Etruscans, the ancient Greeks. Do those who now inhabit the physical territory of these vanished masters and peoples have any more right to what they left behind than do the modern residents of other areas of the world?

Almost to a man, the dealers and the thieves say no. The dealers' approach is purely commercial, though often couched in pious terms. The treasure should go to the highest bidder—but of course always in the interests of "sharing this magnificent cultural achievement with all the world."

Scholars are torn between wanting the source material available in collections and left *in situ*. Hauling paintings around and dismantling frescoes is a touchy business even for the experts, and the inept handling of thieves causes outrageous damage. In addition, most religious art looks better in churches than on gallery walls, while archaeologists froth at the mouth over the abrupt removal of artifacts from their original sites, because practically all their historical value vanishes the moment they are removed from the precise stratum, the exact position and the crucial juxtaposition in which they lay with other remnants of the past when they were found.

The attitudes of nations are ambiguous. If the treasure came originally from their territory, they tend to want it back; if it came from somewhere else but is now

safely in their museums, then it certainly must stay there—witness the periodic frenzies in Great Britain when some wealthy American threatens to buy one of "their" Goyas or Titians.

Many museum directors fall back on the "Elgin syndrome": the assertion that the work would have disappeared anyway, through neglect or destruction, had they not tucked it safely away. Or they use the mass education ploy: Charles Cunningham, director of the Chicago Art Institute, has been quoted as opposing the UNESCO Convention because it "could have the effect of freezing artistic interchange." In support, he cites the 600 million annual attendance at U.S. museums and the fact that these visitors are sharing a cultural exchange with the whole world.

This is an area of honest and honorable disagreement, but all involved in it agree that the glories of the past do *not* belong in the hands of petty thieves. The ironic fact is that the warring interests of nations, museums, collectors and dealers, and their failure to achieve agreement on ethics and civilized tactics, have combined to drive price and demand steadily upward and to make thievery too enticing to resist.

Artnapping for ransom

Proof, if proof is needed, is the upsurge in a form of "artnapping," the theft of valuable paintings and artifacts for ransom. The theft of the Vermeer on loan to Brussels was perpetrated by a 21-year-old waiter who offered to give it back if anybody would raise $4 million and send the sum to the East Pakistani refugees.

The "masterminds" who made off with the Vivarinis and the Giambellinos in Venice turned out to be a gang of young local hoodlums whose previous exploits had primarily involved housebreaking.

Even "the art theft of the century," the $7 million rape of paintings from the Dulwich College gallery in England, on the night of December 30, 1966, was a kind of artjacking. The thieves demanded $250,000 in ransom, or "We'll burn the lot." The college, heavily in debt, refused to pay and in the ensuing war of nerves the gang broke first and slipped word to the police. The paintings were found.

Insurance companies are regularly victimized by the same technique. Commissaire Jacques Mathieu of the French Interior Ministry's central brigade for the repression of theft says his unit's principal problem is getting the companies to cooperate with the police. "They think they save money if they pay the thieves in ransom a fraction of what they would have to pay the owners on the insurance policy," he says. "They could save a lot more if they would cooperate with us."

In much-plundered Italy this is not a problem: Insurance costs so much, as a result of the continuous

Hughes de Varine-Bohan of ICOM believes illegal art traffic should be controlled in same way as drugs.

thefts, that few collectors or institutions can carry it.

The overall problem is like an artichoke. As you unfurl one leaf, there is another one below, and another and another. Law enforcement officers in all countries deplore the lack of funds and trained men to combat art thieves and dishonest dealers, yet the late Bernard Berenson said that it took at least 50 years to train a man to recognize a really good or genuine piece of art.

Understaffed, poorly guarded museums and archaeological sites are invitations to theft, yet the total annual budget of Italy for the maintenance, restoration, administration and upkeep of its many national museums is less than that of the Smithsonian Institution. In Europe's churches the situation is even worse. Even major basilicas are often merely locked up at night and left to the care of understaffed and overworked religious orders who live on or near the premises. France, Spain and Italy have thousands of tiny tucked-away churches with treasures of Renaissance art, guarded by no one except a creaky old lady who can be summoned, by ringing a bell, to unlock the door for the tourist.

There is some question as to whether or not more

guards actually would improve the situation. In Italy and most of the Middle East, guards on archaeological sites are notably vulnerable to discreet bribery. A leading Turkish archaeologist puts his finger on the profit motive: "Suppose we hire more guards for our antiquities," he says. "At today's prices they would soon join the smugglers to get their share of the looting."

One solution to this particular problem might be the sharing of duplicate or similar pieces between either nations or individual institutions. It has often been advanced as a method of halting illegal digging and illicit traffic, and there is some evidence that it might work. Israel, Iran and Egypt are fairly liberal in their permission to export certain archaeological items of which they have many, and Iraq, although not consistent, has been willing to divide finds with foreign expeditions. In general, these nations have no serious problems with illegal traffic. On the other hand, Cyprus, Italy, Turkey and Greece ban the export of virtually all such material and they are robbed blind.

What kind of controls?

No such possibility truly exists in the case of paintings, however, except possibly in the exchange of shows and in traveling exhibitions. More stringent and consistent punishment for thieves might help, officials believe, and so, of course, would stricter control of such key figures as art dealers and auctioneers.

A favorite device of some Swiss dealers has been to receive art works from Italy and then blandly and blatantly return them to Italy "for restoration." Italy all unwittingly assists them in this by permitting art works to come in, under bond, but then insisting that they leave the country again within a specific number of months. The dealer is reimbursed the bond money as soon as the "restored" works leave Italy. By the time such works are back in Switzerland, they are not only in excellent condition but, even more importantly, they are equipped with elaborate documentation that vastly increases their salability.

Italy's Siviero believes that the best solution would be to impose severe penalties on any such dealers who do not have in their possession, at all times, full documentation of the provenance, price and legality of every item they handle. He would back this by nation-to-nation agreements under which stolen art would be returned without question. A few countries have made such agreements although they work better in the field of restitution than in prevention. Mexico and the United States signed a treaty in 1970 that pledges assistance in the recovery and return of stolen works of special historical importance.

ICOM's Varine-Bohan specifically uses the example of drugs in discussing the best approach. "Everything must be organized the way it is for drugs," he says, "with everyone cooperating—police, professionals, museums, governments—to communicate the names of known culprits, to keep up-to-date international files."

There is no possibility of keeping adequate international files, however, until national inventories are carefully drawn up, including works in churches and in private collections. Italy, having started 50 years ago to catalog its far-flung treasures, has made so small a dent in the task that literally hundreds of thefts go unrecorded. In the year 1969 some 3,038 works of art were reported stolen, although in the same year the combined police forces of the nation actually recovered 12,513 stolen pieces.

As a first, positive step which wouldn't require anyone to give back anything, UNESCO, ICOM, reputable dealers, collectors and museums might consider financial aid to the most-plundered nations, at least to the extent of photographing and cataloguing their treasures and setting up, on computers, a file which would be complete and speedily accessible. Armed with this, the police and the law-abiding sharers of the whole world's cultural heritage might at least have a fighting chance against the art criminals.

Police inspect Etruscan Museum in Fiesole, Italy, where thieves entered through broken window at top.

Illegal art traffic

On September 3, 1971, thieves entered the basilica of SS. Giovanni e Paolo in Venice and made one of the biggest hauls in many months: two panels by Giovanni Bellini, wrenched from the altar (right and opposite), and a triptych by Bartolomeo Vivarini (below). The five paintings were found on September 15 after police paid an informer $8,000. The culprits betrayed themselves the next day by dining noticeably well in a restaurant 40 miles away and strewing a flutter of 10,000-lire ($16) notes all across the floor. They turned out to be minor local hoods. This bears out the theory that the "big boys" and organized gangs steer clear of such instantly recognizable works.

SS. Giovanni e Paolo, Venice

By Emmet John Hughes

Our Presidents, heroes or nobodies: They all had their own style

It's not what they did, but the way that they did it: part one of a two-part article on some of our Chief Executives

"The Presidency is the most peculiar office in the history of the world." Harry S Truman, 1959

The nation's 33rd President had a gift for stating complex truths in a simple way. He had read his history and lived his Presidency more than casually; and obviously, he discerned this Chief Magistracy as something historically unique. Less obviously, he meant another sort of distinction: the singular quality not only of *the* Presidency but also of *any* Presidency.

As the political commoner from Kansas City who had succeeded the patrician squire from Hyde Park, Truman must have reflected how he himself provided the latest proof of the idiosyncrasy of Presidential succession and the variety of Presidential behavior. And with this perception of the "peculiar" marks of every Presidency, Harry Truman was crisply defining life in the White House as a matter of Presidential style.

Of all myths and fancies about the Presidency, there may be none more untrue than the notion that Presidential *style* has become a transcendant issue only in this age of manipulative politics, attesting the Merlin-like power of national television. But Franklin Delano Roosevelt, with his mastery of radio, roused national

Writer, editor and historian, Emmet John Hughes served President Eisenhower as a campaign speech writer, being widely credited with phrasing the statement, "I shall go to Korea." Later he served as an administrative assistant in the White House and was an assistant to Nelson Rockefeller. He is author of The Ordeal of Power.

Washington, a simple man, acted the part of a regal President in what John Adams called "the Washington Court." Here he and Martha "receive."

"Some sin to me unknown involved me in politics," confessed John Adams after retiring to the Adams estate in Quincy, Massachusetts. Here he is depicted as leader of all the states.

opinion—30 years ago—far more ingeniously than any of his successors. Still another 30 years earlier, Theodore Roosevelt had set up a press office in the White House and become "the darling of the working newspaperman." The stunning successes of both Roosevelts loom like studies in contrast to the fate (or the style) of two Presidents who served since television became the supreme medium in politics.

Lyndon Johnson found Presidential use of television so far from being a device for the "sale" of his policies that he became the first modern President to give up his office in the face of a chilling display of popular disbelief. Although it is too early to judge his successor, he has borne distress over no dilemma so difficult as the haziness of his televised personality and the tentativeness of his popular following.

All this hints at one critical paradox of the Presidency: The effective style of any administration has depended less on the newest techniques of Madison Avenue than on political truths as old as the age of James Madison—and on the Constitutional Convention and the struggle to define the Presidency by written law. On no other matter were the Founding Fathers so anguished as by their colliding fears of an Executive so weak as to allow anarchy or so strong as to threaten tyranny. During the fight over ratification of the Constitution, Patrick Henry decried its grant of Executive power as an "awful squint toward monarchy." A majority of the 55 Convention delegates had planned, till near the end, to give the Senate alone full authority over making treaties, designating ambassadors and appointing Supreme Court justices—while also voting, before a final reconsideration, to have all Presidents elected by Congress. There finally prevailed the call for a Presidency "with sufficient vigor to pervade every part of it."

The *way* in which this argument was won, however, foretold a great deal about the way in which Presidents "with sufficient vigor" would act. A small group of delegates commissioned to "revise" and "arrange" the Constitution's articles was called the Committee of Style. From them came the hazy—and hence sweeping—declaration: "The executive power shall be vested in a President of the United States of America." It continues to outline powers at once far broader and far vaguer than the basic definitions of legislative or judicial powers. This Constitutional grant acknowledged that the nature of Presidential power could not be penned on parchment or chiseled in stone, but that the impact of each President would forever stay a matter of style—his own "peculiar" style. From this original determination, a straight line ran to Wilson's assessment of any man in the White House: "His office is anything he has the sagacity and force to

make it.... The President is at liberty, both in law and conscience, to be as big a man as he can."

What the political jargon of the 20th century would call the "image" of George Washington was actually what brought, in more than one way, the American Presidency to life. To begin with, the Founding Fathers heard no argument for risking Executive power nearly so persuasive as the simple, quiet presence of the general presiding over their debates.

Great President, great actor

Almost from the moment of his unanimous election, Washington showed how effectively the style of a President could fill the void left by the substance of the Constitution. His eight-day journey by carriage and horse, from his home in Mount Vernon to his inauguration in New York, was celebrated with a regal pageantry—booming guns and tolling bells and cheering mobs—fit for a returning Roman conqueror. As Chief Executive, with his extraordinary mixture of prudence and persistence, he set precedent after precedent to fill in the blank spaces of Presidential authority. All the while he freely showed his taste for public pomp, as he moved about in a fine coach drawn by six horses or on a white steed with leopard-skin housing. As ever since the Revolution, the larger towns elaborately commemorated his birthday, driving one critical journal to cry out: "Even Cincinnatus received no adulations of this kind."

All such criticisms now sound at once inevitable and irrelevant. When Washington went to Congress to give his first report on the state of the nation, he was publicly chastised for a "Speech from the Throne"—but the precedent survived. When he traveled through New England and the South, so that people might see how a President looked, he was assailed for monarchic manners—but the Presidency profited.

Years after his death, his successor, John Adams, himself no master of the flourishes and theatrics of "the Washington court" (see pp. 28-29), looked back and wrote, with an insight sharpened by envy:"If he was not the greatest President he was the best Actor of the Presidency we ever had."

The first President was, in short, precisely what the Founding Fathers expected him to be: an artist in political style.

There appeared in the first transfer of Presidential power a warning of the eccentric rhythm that would mark so many almost incongruous transitions in the White House. A Martin Van Buren following an Andrew Jackson, an Andrew Johnson following an Abraham Lincoln, a William Howard Taft following a Theodore Roosevelt, a Warren Harding following a Woodrow Wilson, a Dwight Eisenhower following a Harry Truman: Each of these, in his "peculiar" way, reflected something of the alternative styles of Presidential leadership first foreshadowed by a John Adams, called to take the place of a George Washington. But the distance between the martial hero and the portly intellectual may be judged by Vice President Adams' explosion to Benjamin Rush in 1790: "The history of our Revolution will be one continued lie.... The essence of the whole will be that Dr. Franklin's electrical rod smote the earth and out sprang George Washington."

As such querulousness might suggest, the Presidential life of John Adams amounted to what has been called "a full agenda of woe." Succeeding to office by the margin of three electoral votes, he suffered the taunt of being a "three-vote President" from the start; and, at the end of his one term, his bitterness over Thomas Jefferson's victory drove him to shun his successor's inauguration. He displayed admirable qualities of intelligence and tenacity, above all in keeping the young nation from involvement in the conflict between England and France. A man of singular talent and insight, he would be judged by Vernon Parrington to be possibly "the most notable thinker . . . among American statesmen." But he was other things too: arrogant, cranky, aloof, vain and secretive enough to alienate both Jeffersonians and Hamiltonians. This confident and cerebral Chief Executive lacked, in short, all decisive sense of Presidential style.

T.R.: "able to face anything"

The same Presidential drama, essentially, was reenacted a little more than a century later. The protagonists this time were Theodore Roosevelt and William Howard Taft. In this instance, Taft came to the White House as T.R.'s insistently chosen successor. But this only brought a memorable irony to the conflict between each man's ideas of *how* a President should act and lead.

In the headlong process of staking his claim to being the first modern President, Theodore Roosevelt played his role with the zest of a crusader and the glee of a boy. After Ohio's Republican boss Mark Hanna lamented on "that damned cowboy" gaining the White House, Roosevelt happily took the sneer as a cue and proceeded to give the Presidency what one scholar later called "the breathless drama of a Western movie" (see pp. 32-33).

The act was no affectation. Back in 1884, Roosevelt had written a friend that, once he put on his special cowboy suit, complete with revolver and rifle, "I feel able to face anything." Or as a relative, fully aware of his love of center stage, once commented: "When Theodore attends a wedding, he wants to be the bride,

and when he attends a funeral he wants to be the corpse." The tireless display of such enthusiasm drove another observer to see him as "an interesting combination of St. Vitus and St. Paul." More importantly, his use of drama was no mere indulgence. In the words of Archie Butt, his military aide: "One never gets away from Mr. Roosevelt's personality . . . when he comes into a room and stands as he always does for one second before doing something characteristic, he electrifies the company."

The process of "electrification" relied upon a rare skill with words and gestures to convey his message. With seeming ease, he coined phrases and slogans—from "muckraker" and "lunatic fringe" to "square deal" and (most characteristically of all) "my hat is in the ring." Traveling with as much studied purpose as he talked, he became the first President to travel beyond the nation's borders when he went down to take a proprietary view of the site of the Panama Canal.

Disdain for Cabinet and Congress

For all his aggressive reforms on the national scene, the style of T.R.'s leadership became most vivid in foreign affairs—whether he was negotiating for the Panama Canal Zone, which earned the Republic the distrust of Latin America for decades, or mediating the Russo-Japanese conflict, which earned him the Nobel Peace Prize. In major decisions he acted with a kind of impartially divided disdain for both his Cabinet and Congress. He once confided his Presidential dream to his cousin, young Franklin Roosevelt: "Oh, if I could only be President and Congress too for just ten minutes!"

The most dramatic as well as effective Rooseveltian thrust in world affairs was his dispatch of the battle fleet—16 battleships and 12,000 men—on their 1907-1909 world cruise to impress all nations. By all judgments, the impact of the fleet upon the great powers was as electrifying as this President's entry into a drawing room. But the manner in which he delivered it had to be almost as significant as its results. The plan provoked immediate opposition from Congress, finally focusing on the threat to refuse funds for the grandiose operation. Unruffled, Roosevelt replied that he already had funds enough to move the fleet from its Atlantic bases to the Pacific, and if Congress chose to leave the battleships there, the decision to strip the East's defenses would be theirs. How could a mere Senator combat a Rough Rider?

Whatever the failings of this Roosevelt, probably no President has proved so surely the greater importance of style than of statute. He had ample reason to write to a friend, "While President I have been President, emphatically."

The William Howard Taft who followed him proved to be the retort incarnate. If Roosevelt was the frustrated general, almost lusting for combat, Taft clearly was the frustrated judge, longing for quiet. The two ended by being as much at odds as their dreams. While Taft's Presidency was not without victories, he once told Archie Butt: "I have made up my mind. . . . I cannot be spectacular."

Loftily indifferent to the press and impervious to his critics, he confessed to the military aide who had served both T.R. and him: "Of course Roosevelt would have come back at [the critics], but I cannot do things that way," and with a sovereign sort of complacency, he consoled himself, "by and by the people will see who is right and who is wrong." As Secretary of War Henry Stimson said of him, apropos of one vacillating encounter with Congress, "he would not strike out from the shoulder," but left Stimson to feel

"That damned cowboy," groaned Ohio financier Mark Hanna as Theodore Roosevelt succeeded McKinley. T.R. proceeded to play the role to the hilt. Western trappings made him feel invincible.

"His office is anything he has the sagacity and force to make it," Woodrow Wilson said of the President. Here he is firing at his own words against entering World War I.

"as if I were taking his fist and trying to drive it forward for him."

The contrast in styles, between Taft and Roosevelt, led to the anguishing conflict of the two Presidents in 1912. Roosevelt had known Taft intimately for years when he had told Taft *directly* in 1908: "I have always said you would be the greatest President, bar only Washington and Lincoln. . . ." T.R. had foreseen everything but the essential: how a Taft would *act* as President. When the final break became public and bitter, Taft openly wept and exclaimed, with pained disbelief: "Roosevelt was my closest friend." And when the division became formal with Roosevelt's rebellious Progressive candidacy, the Republican leader, Chauncey M. Depew, promptly spoke the political obituary of both men: "The only question now is which corpse gets the most flowers."

The political postscript for Taft—at once happy and revealing—came with his service as Chief Justice from 1921 to 1930. He had once written his brother of his love for the bench: "Perhaps it is the comfort and dignity and power without worry I like." No President could ever have enjoyed power so serene. As a fretful President prone to sleeping too much and eating too much, Taft had betrayed the size of his worry in the size of his waist, but as a confident Chief Justice he worked hard and controlled his weight. After four reassuring years on the Supreme Court he wrote: "The truth is that in my present life I don't remember that I ever was President."

While William Howard Taft was distinguishing and enjoying himself on the highest bench, the 29th and 30th Presidents, Warren Gamaliel Harding and Calvin Coolidge, gave an eight-year lesson on one much-neglected aspect of Presidential style. These two Chief Executives could hardly have appeared more different: Harding congenitally warm and gregarious and trusting, Coolidge calculatedly cool, reserved and shrewd.

"I will not play a part for popularity,"
President William Howard Taft proclaimed.
He said that the White House made
him "feel just a bit like a fish out of water."

Both men shared, nonetheless, a notion that the office should be dignified and detached, uncombative and unpolemical. So believing, each man, by the very slackness of his grasp on power, behaved in the White House quite as the nation liked and expected. And so behaving, they served to remind that the style of any President could not be prescribed by formula, nor was it "peculiar" merely to each President. It also had to be judged by the peculiar mood of the people at a particular time.

With Harding, the Presidency took on exactly the tone wanted by the nation—after eight years of Wilson. It was typical of Wilson's bitterness, after his vain fight for his Treaty and his League, to sneer at Harding as "the bungalow mind"; and it is true that a bourgeois quality (or "booboisie" as H. L. Mencken put it) seemed to fit the times. The popular longing of 1920 was for a return to the lazy peace of a small town Main Street. A relaxed, kindly and tolerant Harding offered near-perfect relief to the rigid, doctrinaire and abrasive Wilson. When Harding suddenly died after but two and a half years in office, the procession-by-train bearing his body back to Washington was wept over by mourners across the land—a general grief that the *New York Times* called "the most remarkable demonstration in American history of affection, respect, and reverence for the dead." A perhaps more surprising eulogy came from the most keen-eyed European student of the President, Harold J. Laski, in his voluminous correspondence with Oliver Wendell Holmes: "I was very moved by Harding's death. . . . I thought him mediocre in ability but with a real and generous goodwill to his fellowmen, a quality I am still sentimental enough to think important."

With Coolidge, the White House took on exactly the air needed by the nation—after its years with Harding. The temper of the times echoed in the Holmes-Laski correspondence, now with the American Justice writing his English friend, ". . . while I don't expect anything very astonishing from [Coolidge], I don't *want* anything very astonishing." The President obliged. In the memory of the permanent White House staff, as one of them later wrote, "no other President in my time ever slept so much."

When this 30th President once was asked how he got his exercise, he replied: "Having my picture taken." He might have answered the same if asked how he projected his Presidency. He raised passivity to nearly the level of strategy.

There was another, more positive way that Coolidge suited his time. The scandals of the Harding regime—Teapot Dome, the Veterans' Bureau and the Department of Justice—did not erupt until after Harding's death, bringing on what Will Rogers called the "great morality panic of 1924." But with Coolidge in the White House—a model of personal rectitude who could be dubbed a "Puritan in Babylon"—the Presidency itself was spared public scandal and popular distrust. And thus a Republican administration that, in a different time and with different luck, would have

"I listen to one side and they seem right, and then—God!—I talk to the other side and they seem just as right." So lamented popular Warren G. Harding, seen here with Evalyn Walsh McLean.

"Silent Cal" Coolidge, purse-lipped "Puritan in Babylon," is said to have squelched a gushing dinner companion who had bet she could wring three words from him. "You lose," he told her.

been hounded from office actually suffered not at all: A Coolidge at once so clean and cool easily won election in his own right, when a trusting and shrugging electorate (less than half the eligible voters bothered to go to the polls) gave him almost twice as many votes as his Democratic challenger.

The Harding-Coolidge era is looked back upon as a strange, almost lifeless prelude to the most harrowing modern test of Presidential leadership. The Great Depression was an ordeal matched in all the nation's history by the Civil War alone. For a nation as for a man, the time of searing crisis can become the time of enlightening self-discovery. So it was now. The meeting and surviving of the Great Depression revealed and dramatized, as never before or since, the fateful meaning of the style of two Presidents who successively faced the same test with memorably contrary political ways and manners—Herbert Hoover and Franklin Delano Roosevelt.

The fate of Hoover amounted to a study in irony almost too extreme to be credible. Few Presidents stayed so loyal to their convictions, beyond all reach of contradicting circumstance or tempting expedience. Few would thereby force themselves, as well as their country, to pay so harsh a price for their fidelity. When he entered the White House in 1929, Hoover had long been hailed as the masterful technician of 20th-century economy and technology; and by the time he made his farewell Presidential drive down Pennsylvania Avenue in 1933, he had been denounced as a kind of co-conspirator in the worst economic debacle in American history.

But the ironies had deeper roots in his past. The man whom the angry jobless bitterly honored by christening their shacks and slums Hoovervilles, had been the hero of relief and reconstruction during and after World War I, who had moved thankful Europeans to name many a *Hooverstrasse*. From World War I, he had emerged—rather like General Dwight Eisenhower after World War II—as a figure above ordinary politics, without known partisanship. In 1920, an Assistant Secretary of the Navy had written excitedly to a friend about Hoover: "He certainly is a wonder, and I wish we could make him President of the United States. There could not be a better one." The Democrat, with this ardent hope, was Franklin Delano Roosevelt.

The style of the Presidency

There was a pathos to go with the folly after 1928. Much of it was to be found in prophecies and promises of Hoover so far from reality as to suggest the utterances less of an economist than of an exorcist. He celebrated his Presidential nomination in 1928 with the assurance that the Republic stood "nearer to the final triumph over poverty than in any land." The decade soon to begin would mark, instead, the first time since 1789 when a greater number of people chose to leave the Republic than to enter it. By the end of 1931, the folk-humorist Will Rogers could only laugh a little nervously over repeated Presidential forecasts of imminent prosperity: "We are the first nation in the history of the world to go to the poorhouse in an automobile." And to all of this, Hoover would later add in his *Memoirs* the earnest and still uncomprehending commentary: "I was convinced that efficient, honest administration of the vast machine of the Federal government would appeal to all citizens. I have since learned that efficient government does not interest the people so much as dramatics."

Such stubborn sincerity set the tone and foretold the end of the 1932 campaign as decisively as Roosevelt's often florid and forgettable rhetoric. In this campaign the statistics of life were vastly more persuasive than the speeches of candidates. The nation's industrial production had fallen to barely one-half its 1929 level, and 12 million citizens were without jobs. To begin his campaign, Hoover had gone back to his native Iowa, there to be greeted by a couple of thousand farmers marching through the streets of Des Moines under banners of derision: "In Hoover We Trusted—Now We Are Busted." To end his campaign, Hoover faced the placards of crowds in St. Paul protesting his dispersal of the thousands of war veterans who had marched on Washington, the summer past, as the Bonus Expeditionary Force seeking financial help.

How had this "guardian of the people" worked and responded, looked and sounded, through his four years in the White House? Hoover struggled through 18-hour days until "so tired that every bone in my body aches." After the pain of such work, the public or partisan outcries against a "do-nothing" President could provoke only an unspeakably bitter resentment.

Hoover's dogmatic orthodoxy had little patience, and no answer, for questions about individual need and federal aid. He could offer two prescriptions for the proper national response to the drought of 1930: He approved a Congressional appropriations of $45 million to save the livestock of Arkansas; and he opposed an outright grant of $25 million to aid the farmers and families affected, since such governmental relief "would have injured the spiritual responses of the American people." Under such a definition of the "spiritual" needs of citizens, all who hoped for federal help only could envy the happier lot of those incorruptible cattle.

Hoover never laughed

This 31st President moved with tragic lack of humor, warmth or confidence—except in his own rightness. Back in 1919, at the Versailles conference, economist John Maynard Keynes had much admired Hoover, but made note of "his habitual air of weary Titan." And precisely this became the "air" of his Presidential leadership. A veteran of the administrative staff in the White House, who had seen many Presidents pass through, later remembered of Hoover that he "never laughed aloud" but "always had a frown on his face." In communications with his staff, he observed chill courtesy, avoiding either rebuke or debate, since "A man should not become embroiled with his inferior." In communications with the press, he nervously kept his distance, and he was angered or confounded by almost any criticism. In communications with the people as a whole, he could display neither flexibility nor force: He found the struggle with words difficult and dismaying, as he labored over his own texts in longhand, and the hazy homilies finally spoken left him without one victory in prose.

He once bluntly said, "I have never liked the clamor of crowds. . . . The crowd is credulous, it destroys, it hates and it dreams—but it never builds." It appears never to have crossed his mind to wonder how a President could govern the "crowd" of the American Republic if they stayed *in*credulous toward him. Obviously, he had never heard the first President described as "the best Actor" in the role. Nor could he have remembered the pointed sense of Washington's own aphorism: "The truth is the people must *feel* before they will *see*."

"Efficient government does not interest the people as much as dramatics," Hoover once grumbled. This famous Clifford Berryman cartoon is from the *Washington Star* after Roosevelt's 1932 election.

Next month: FDR, shining knight in a wheel chair;
the contrasting styles of Eisenhower and Kennedy

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Pinkish vetch adds a flash of color to marsh reeds at the edge of the wetlands' grassy plain.

Photographs by Farrell Grehan

By John Hay

Making peace with the marshes of New Jersey

A new law grants a reprieve to what's left of the quiet, rhythmic tidal lands of the nation's most densely populated state

New Jersey has had a bad press from people like myself who drive out of New York City into regions that seem incapable of sustaining any life other than human beings whose capacity to stand sterile surroundings and to breathe poisoned air seems fantastic. In reality, of course, nature saves us all, up to a point. The water can be relatively purified, the oxygen gets to our lungs along with the particulate waste matter, and we survive. And seemingly ruined areas like the marshes and water courses near the big cities still contain a surprising amount of life.

In the marshlands along Newark Bay the tall phragmites grass plumes in the wind, black ducks fly up, muskrats tunnel into grimy shores, and killifish, tolerant of low oxygen and polluted waters, manage to make a reasonably good living, as do eels and crabs. But saltwater fish rarely reach these inland wetlands since they have to swim through heavily polluted Newark Bay to get there, and it lacks enough oxygen to sustain them.

Marshes have had another kind of bad press from people who think they are smelly, useless for anything but mosquitoes and should be filled in. We are only beginning to be aware of how great a role their diversity plays in the great productive interaction between land and sea, but in many parts of urbanized New Jersey diversity has been forgotten. The Hackensack Meadows, for example, have been filled in at the rate of 30,000 tons a week in recent years. As if to show on which side the scales are weighted, New Jersey's marsh areas have been valued at the exorbitant sum of $70,000 an acre, not as life systems for themselves alone, but as landfill. In other words, organic material from salt marshes is being used to destroy them.

If you look at a road map, you can see first of all that New Jersey's coastal plains occupy more than half of it. A large part of the state, aside from its hills and lakes to the north, is invested by the sea. Wide marshes border its low shores; streams, tidal rivers, inlets and estuaries lace it like the veins in your hand, and it is the kind of region where you can find a wide variety of natural food for Man. Such wetlands are one of the most productive environments on Earth.

As you continue to look at your road map or out of the window of your car as you speed down another giant turnpike, you can also see the evidence that New Jersey is the most densely populated state in the Union, with 953 people per square mile. Fair Haven, an average town, has a population of 4,000 people per square mile. It is evident that a city like New York, one of the most heavily concentrated knots of human power and effort ever known to civilization, exerts enormous pressure on the lands beyond it, and the

One of the world's most productive habitats: a shallow salt pond set in the spike-grass.

A longtime celebrant of the Atlantic coast, John Hay is president of the Cape Cod Museum of Natural History and author of In Defense of Nature.

same is true to a lesser extent of the Philadelphia, Camden and Chester regions. The wetlands are being subjected to a squeeze.

The cities press and push, and money sometimes talks louder than the landscape. The real estate business claims to speak for people and progress, an argument against which undeveloped wetlands have not had enough defenders. There may be up to 400,000 or 500,000 acres of marshland in the state, and though only ten percent may have been destroyed so far, the pressure against the remainder continues to build. New Jersey is a dredge and fill state, where the developers have been able to use methods fairly economical to them in order to destroy salt marshes and make a clear profit. Fortunately, now the state has a new Wetlands Act, being seriously and conscientiously implemented, and perhaps times are changing.

I drove down to New Jersey last spring, past some of the nearly petrified pleasure domes and palaces of Asbury Park and other beach cities, with plaster deer standing on their lawns beside the sea. It was on the shores of Great Bay, south of Tuckerton, that I saw what a salt marsh could really be, in natural ease stretching away for miles between the shore and the sea horizon.

These marshes are for the most part without beaches, except those which are man-made. Out on their far edges the sea laps and pushes against low shelves and lips of peat held by spartina grass and periodically floods the meadows behind them, back

Autumn sun and coastal goldenrod form
a temporary court for migrating monarchs.

toward the lift of the shore. The marine plants that make up the marsh and its great bodies of peat are salt tolerant and are variously adapted to being flooded by the tides. Cordgrass, *Spartina alterniflora,* can stand being half or totally submerged for many hours; it is the pioneer plant in the building of marshes, growing the farthest out toward the sea. Salt hay grass, *Spartina patens,* and spike-grass, *Distichlis spicata,* grow on slightly higher, drier, less saline levels. Mixed in with these grasses and others, are flowering plants, and fleshy glassworts grow there with a nice salt taste to their jointed stems. Just listing a few plants gives no idea of the dynamic way they create shelter and stability in an essentially hostile zone open to the sun, the tides, the sea winds.

A marsh is a region of great subtle strength and elasticity; it reaches out, it reaches in, and you only have to meet a few of the life forms there to realize just how much it accommodates. Grass shrimp dart between the stems of reeds or grasses along a muddy bank. You catch sight of a blue crab slicing edgewise through the water, or a terrapin swimming hurriedly away. There are piles of empty oyster and clam shells along one bank of a tidal creek where it passes a small fishing settlement. You may hear a low "wuhk wuhk" from a surprised bittern that flies up out of its hiding place in the reeds.

The salt marshes are a vast nursery for the young of such fish as weakfish and the bluefish so much prized by the sportsmen. It is estimated that young bluefish grow as much as an inch a week on the food of the estuaries, protected there from predators. Americans who depend more on hamburgers than fish may not be expected fully to appreciate it, but some 70 percent of the species of our Atlantic fish depend on the estuarine zones for some part of their existence.

I think of these great marshes not only in terms of their productivity (although that may be a useful term in trying to coax a produce-minded culture into valuing them) but of their timing. They, and their brown creeks with waters running blue-hued from the sky, take the year to themselves. Even in winter they serve as a refuge for some species of fish and for thousands of waterfowl. Life is never entirely absent in these wetlands that serve as meeting places between the land and the more temperate sea. From spring until fall there is a gradual change in growth and color in their plants and grasses, from one week to another.

New Jersey's great width of salt meadows, with their waving, coarse-bladed grasses, seem more blended with the land behind them than with many similar regions to the north. They seem quiet, almost domestic. Their waterways move easily into low shores. Though there are definite transition zones between one type of vegetation and another, so that you can define the area of a marsh fairly readily, even the areas miles inland from it seem like comfortable partners.

From a highway a marsh may look flat and featureless, but when you are down in its inner meanderings it seems endless and full of unexpected turns. In some areas, you can see new sections of marsh building up where the fine tips and stems of the tough cordgrasses wave above the water offshore. And then you can follow coiling and curving inlets back toward the land, past banks where fishermen, for generations, have driven in their posts for mooring boats or for use as small landing stages.

Rhythm and reclamation

Now and then you see a boat lying along a creek bank like a tired horse. Islands up an estuary may have a house or two on them. The older fishing settlements along the shore have the kind of gray shacks built on stilts that accommodate rather than impose. Land and sea have a companionship here and the results, when allowed, show in an easy, rhythmic diversity. You could eat well and live well here and find yourself a part of both intimate locality and ample space. No wonder the Lenni-Lenape Indians who lived in these coastal regions of New Jersey were reputed to be a peaceable and well-settled people.

The Indians lived with these complex life communities without taking away anything essential to them, but we wielders of the bulldozer, the dredge and the crane not only add destructive materials that pollute the environment, but we are also able to change it so drastically as to destroy its capacity to regenerate.

Off on the horizon, beyond the waving marine grasses, there is another great section of marsh replaced by promontories of glaring sand, divided by channels and covered with small one-story houses.

Marsh grass stretches for miles in natural
ease, a quiet shelter for wetlands' life.

Omnipresent laughing gulls congregate at the grassy edge of a tidal pool.

A grapevine wends its way through the bright green spring growth of the marsh's grasses.

They are called lagoon developments and are particularly thick from Barnegat south to Tuckerton. Each row of houses has its ditch or channel, made by dividing the claimed marshland into a grid. None of the original plant life is left on the former marsh level where the houses are built; there is not even very much grass.

Inland, behind the developments, patches of unaltered woodland stand out dark with cedar, oak and pitch pine. The higher trees have an undergrowth of holly and blueberry, laurel and shadblow, or serviceberry, with blossoms starting out white and lacy in airy spring days. The natural woodland and marsh is dark and glossy, a repository of light and shadow. The man-made land stands out bright, gray and dry under the sun.

Don't these people, getting away from the city's pressures and troubles for a while, deserve their houses for rest and company? The answer is that of course they do, but perhaps they also deserve a far less sterile relationship to the land they live in. Reclaiming the organic environment is a dead-end street; there is a point at which it will sustain no more people.

Dery Bennett, director of the American Littoral Society of Sandy Hook, who has been testifying about the ecological value of marshlands in court cases involving them, says: "Those who are trying to restrain the developers are not so much against them as against their methods."

The method of destroying a marshland is to build bulkheads and sod dikes and then dredge out peat and estuarial mud to fill in behind and, when this material dries out, of course, its organic capacity is dead. The gridlike pattern of lagoons, especially where it comes closer to inland banks and higher land, is beyond reach of the continual flushing action of the tides, which means that these artificial channels become too high in nutrients, their waters become loaded with algae and deficient in oxygen.

Putting a system out of business

The developers' methods result in putting a life-giving, nourishing, circulatory system out of business, and since it has been profitable for them, they move on to new areas wherever these can be bought up. Until recent years at least, they have been able to do so almost without restraint. They were obligated to get permits from the New Jersey Department of Conservation and Economic Development, but the department's general policy seems to have been to keep leases, grants and permits from piling up on its desks.

Nevertheless, it has become evident in New Jersey, as in several other eastern states before it, that unless some positive restrictions and definitions were estab-

lished with respect to laws and regulations governing the use of coastal wetlands, they would eventually be destroyed. Under a new governor, William T. Cahill, the Department of Conservation and Economic Development was broken up so that the responsibilities of economic development were given to the Labor Department, and a new Department of Environmental Protection was formed, with Richard J. Sullivan as its commissioner.

A new law for the wetlands

In November 1970, the legislature passed a Wetlands Act which declared the vital importance of the estuarine zones of the state in protecting the land from the force of the sea, in moderating the weather, in providing a home for waterfowl, fish and shellfish. The act ordered the Commissioner of Environmental Protection to make an inventory and maps of the wetlands by the end of 1972. In addition, it authorized him to make regulations restricting or prohibiting dredging, filling, removing or polluting the wetlands. The act provided fines for violators and makes them liable for the cost of restoring wetlands in so far as possible to their previous condition.

The new law defines coastal wetlands in general as lowlands subject to tidal action along outer shores and inland waterways, streams and estuaries that are subject to tidal reach. Specifically this refers to land flooded to an elevation of one foot above the line of extreme local high water, and this is to be defined as exactly as possible in terms of the vegetation growing there. All the tidal lands below that as far as mean high water are now subject to regulation by the state. Previous to that they had only been subject to home rule or local restrictions.

To establish these tidal lines by means of their vegetation clearly means very careful mapping. The state would not be able to enforce regulations based on cloudy, incomplete or poorly designed inventories and boundaries. Nor do officials of the commission, based on past information, know where all the wetlands are. Therefore aerial mapping is now being undertaken with color and infrared photography with the help of a satellite. Base maps are at an image scale of one to 12,000 (one inch = 1,000 feet) and are of the dimensions to fit overlays of tax-plan maps.

In September 1971, the state issued its first maps and regulations in two test areas, to be followed by a public hearing as required by law. One of these was in Tuckerton, with about 30 square miles of coastal marsh. This is an area where development has dredged thousands of acres and where thousands more are threatened. The Mystic Development Corporation had already been enjoined by the state to stop its dredging

Male flowers of a black oak start a new cycle in the dew of wetland spring.

Low-growing honeysuckle blossoms begin to emerge beneath reeds and viburnum.

and restore the land to its prior condition, as far as possible. (It might be said, in editorial fashion, that a marsh can be wrecked in a day, but for all the legal, perhaps necessary, emphasis on restoring it, that is in reality an almost impossible thing to do.)

In any event, a notable beginning has been made, one that follows the precedent of other states like Massachusetts, which initiated wetlands legislation about ten years ago, as well as Connecticut, Maine and Maryland later on. New Jersey has a unique approach to the problem, and all other regions faced with diminishing coastal resources can only hope for its success.

I drove down to New Jersey again last summer and headed for the inlets and the salt marshes, to the slow easy rushing of salt water against peat banks on the outer shores to the quiet creeks, and the grasses where innumerable seaside and sharp-tailed sparrows are always making short flights ahead of you and dropping out of sight. The full summer wind poured across wide bands and patches of yellow and yellow-green on the salt meadows that also wore darker, running shadows under the clouds.

Clam shells were piled along the bank and roadway where I talked with a local clammer and fisherman who knew the wetlands intimately, even patriotically. He showed me a rig called a "shinnecock," a scoop with rakelike teeth, having a handle that could be extended to 30 feet to drag the bottom for clams. He could feel it when the rig was on the right kind of ground for a clam, or the wrong one: "It's like feeling a bit of seaweed between your teeth."

The fisherman's feeling about wetlands was in effect very much like that of some state officials, the conservationists, other fishermen and local inhabitants who respected their environment for its own sake.

He felt that the developers were taking almost everything. He also felt that if enough local people who really valued the coast and the living it provided them could always be on the alert for violations, things might be better.

"They can't be expected to see everything from Trenton."

Land and intimate human use should not be divided. Seen through local eyes, respectful through long acquaintance with all the details in the landscape, the marshes, the estuaries, the creeks and inlets, the grasses, birds and salt pools are a tremendous resource worth far more than billions of dollars. Compared to such a resource, the value of speculative "growth," ruining what it feeds upon, amounts to no more than a gutted clam shell tossed into the sea.

The warm wind poured in hard, roughing up the shore waters, swimming through seas of grass. I was reminded of the great plains of the west. "There's nothing more pretty in the world," said this fisherman as I left him for a bypass, an expressway to the north.

A frieze of egrets, four snowy and one common, patiently stalks the marsh's riches.

Like a dramatically lit sculpture, cordgrass gleams in the late afternoon sun.

By Meryle Secrest

Lessing Rosenwald, collector of great prints, rare books

He has given to the nation two matchless collections, the fruits of more than 40 years of passionate pursuit and study

"I have been asked this a hundred times," Lessing J. Rosenwald said, patiently preparing to answer the same question for the 101st.

Why did he begin to collect prints? People keep asking, because this modest, unassuming businessman from Philadelphia has amassed, since he started looking at art auction catalogs some 43 years ago, one of the great print and rare book collections in the world. His generosity is on the same scale. He has given them all away: a collection of 25,000 prints to the National Gallery of Art and his rare book collection, comprising more than 2,000 volumes, to the Library of Congress. Their value is probably beyond calculation.

It is a paradox that Rosenwald, heir to a great American fortune made from the sale of millions of identical objects (Sears, Roebuck and Co.), should have become fascinated by the beautiful and unique, with a passion that has lasted for almost half a century. Or perhaps it is *not* so strange that a man for whom life has been a cornucopia of possessions should reserve his greatest admiration for artistic works that are often one of a kind or would, in any case, be difficult to replace.

Rosenwald—gentle, benevolent, at 81 the patriarch of a family of 53 children, grandchildren and great-grandchildren (including spouses)—does not know why he collects and is not introspective about it. He does not recall having any particular youthful interest in art, but he does remember having his eye caught one day in Philadelphia by a Scottish print in the window of art dealer Richard Sessler. It was by D. Y. Cameron, a member of the Royal Academy in Edinburgh. "I just took a fancy to it, and bought it," he said. "I wondered about it. I started reading. I got a great many catalogs from dealers and auction houses and kept them by my bed. On Sunday mornings I would go over them."

That was in the Twenties, when Rosenwald was chairman of the board of Sears, Roebuck, succeeding his father, Julius Rosenwald, pioneer of mail-order sales and one of the founders of Sears. Father Julius was a great philanthropist. His son's generosity is on the same grand scale, and equally little known. Only those close to the Rosenwalds are aware of their many public and private acts of beneficence.

Reading his catalogs on a business trip to Chicago, Rosenwald realized that some great print sales were coming up at auction in Germany. "At that time," as he later wrote in the National Gallery catalog *Fifteenth Century Woodcuts and Metalcuts,* "my knowledge of prints, and particularly early woodcuts, was nil." He phoned his art-dealer friend Dick Sessler and asked Sessler to join him at North Philadelphia station on the Broadway Limited bound for New York.

"I said, 'I've got a crazy proposition to make to you. Here are these great sales. You go abroad and buy any print you want. When you get back, I get the first chance to buy what I want, plus ten percent commission for you. Or, if my commissions are less than the cost of your trip, I'll make up the difference.' "

Sessler went, and bought heavily. It was in the late Twenties, when many of the great German collections were being sold by hard-pressed owners. "It was almost impossible for either of us to make a mistake," Rosenwald said. "You could stick a pin in almost any of those catalogs and find a spectacular print."

When Sessler returned, Rosenwald bought almost every print he had found. "I was hooked," he said. "I've never disgorged the hook since."

Encyclopedic but selective

After prints, he went into books. Frederick Schab, a New York dealer of rare books and prints who, along with his father William, has known Rosenwald for many years, says: "In a sense, he was initially inspired to collect great rare books by Dr. A. S. W. Rosenbach [a famous New York and Philadelphia dealer who died in the Fifties]. Rosenbach introduced him to the world of great books in early editions; from that he acquired a taste for early illustrated books, including those of William Caxton, the first English printer. With his books he tried to maintain the same high standards he had set for prints. His print collection is on the one hand encyclopedic, in that it covers all the Western schools, but it is also selective, in that he tries to limit it to important artists."

J. Carter Brown, director of the National Gallery, says: "The point is not the size of the collection, because some are bigger, but its quality. Each print is really a master print. In addition, the Rosenwald collection of rare German woodcuts is really unique."

Lessing J. Rosenwald and his petite, energetic wife live at Alverthorpe, their estate at Jenkintown, just north of Philadelphia. After buying it, they replaced the 19th-century house on the property with a new one, to which was attached a private print museum to house the rapidly growing collection. Although the prints and books have already been given to the National Gallery and the Library of Congress, the bulk of the collections will remain in the Alverthorpe museum at least during Rosenwald's lifetime ("It's partly selfish, maybe 90 percent," he said once; "I hate to part with them").

Several years ago the Rosenwalds moved out of the big house and into a smaller, though spacious, one-

Mr. Rosenwald is seen at left examining one of his rare illuminated manuscripts. The author of this article is writing a biography of Romaine Brooks (SMITHSONIAN, *March 1971*).

Some of Mr. Rosenwald's favorite prints

Rembrandt van Rijn, *Jews in a Synagogue.*
This is one of his noblest etchings.

All prints courtesy of National Gallery of Art, Rosenwald Collection

Two Peasants Fighting, drypoint by
the "Master of the Amsterdam Cabinet."

Landscape with Two Buildings, etching
by Augustin Hirschvogel, 1545.

The Temptation of Christ, engraving
by the "Master LCz," circa 1500-1505.

How precious are thy thoughts
unto me O God
how great is the sum of them

There were not found Women fair as the Daughters of Job

in all the Land & their Father gave them Inheritance

among their Brethren

If I ascend up into Heaven thou art there
If I make my bed in Hell behold Thou
art there

W. Blake invent. & sc.

Rosenwald is especially fond of the illustrated books of William Blake. This is Plate 20 from Blake's *Book of Job*.

floor dwelling they had built on the foundations of what was once a greenhouse and potting shed. The big house and part of the property were donated to the township, which has converted it into a community park with tennis courts, golf links, softball diamonds, a bicycle track, a lake and picnic grounds.

Since Rosenwald retired from Sears in 1939 he has lavished his time and attention on the print museum. He is usually to be found behind a large desk. There is a portrait of his father over the mantelpiece; around the sides of the room are wall cases containing his collection of antique chess sets. There are also 36 small bronzes by Daumier.

A man in his element

Rosenwald's presence is that of a magnanimous and genial spirit whose greatest delight is in pointing out why a print or book is particularly interesting. He is in his element, and never seems to mind how often he has to tell the same story. He cheerfully unlocks cupboards in long corridors lined with shelves, revealing one treasure after another. His hands smooth and caress the old pages. His clothes are modest and subdued: gray trousers, a dark coat, a blue tie. When pleased, he reddens. As a rule, he will sit without saying much—since he's getting a bit deaf—while benevolently observing the conversation of others. The top of his balding head has some mottled patches, appropriately recalling the watered papers inside the covers of his rare books.

From the time Rosenwald bought his first batch of prints in the late Twenties, he has refined and honed his taste—and his collection shows it. It runs the gamut from the 15th century to the present day. The earliest woodcuts and metalcuts document the first days of printing. The rest of the collection is an encyclopedia of printing techniques: line engravings by Dürer, etchings by Rembrandt, popular 18th-century techniques such as stipple engraving, the "crayon manner" and color printing; mezzotints (a method invented in the 17th century and the great favorite, 100 years later, of Reynolds and Gainsborough); aquatints (widely used by Goya) and silk screen prints. Etchings, invented in 1513 and popular ever since, had their great period in the 17th century, culminating with Rembrandt. Lithography, a method of printing invented in the 18th century, was widely used by the 19th-century artists Delacroix, Daumier, Manet and others, and is still popular.

The exceptional quality of Rosenwald's examples of these artists' works is an outgrowth of his interest in the methods of printmaking down through the centuries. He grew up at a time in America when it was natural to be technically oriented. His are the instincts of a connoisseur, an evaluator, an appreciator, rather than of an artist or an art historian. He seeks the best copy extant. He wants the perfect collection, knowing that it will never be attained.

Because of his fascination with craftsmanship and the rare, the collection is particularly strong in incunabula woodcuts (printed before 1501), now virtually unobtainable. His collection of them is unrivaled, at least in the United States. These woodcuts, the first prints, sprang up all over northern Europe in the 15th century; they were probably made for pilgrims as souvenirs to take home from their visits to far-off cathedrals. During the 15th century alone hundreds of thousands were made, usually in a single color (black or brown) and usually of religious subjects. Rosenwald says they were probably as common as postcards are today and just as easily discarded.

Those early woodcuts that have survived have usually done so because they had been pasted onto the inside covers of books or boxes. The earliest woodcut in the collection, circa 1400, is not on paper but on linen. It is one-half of a Tyrolian lectern cloth depicting the marriage at Cana, supporting the thesis that printing on paper came about only as a natural extension of printing carved wooden blocks onto cloth, and only after paper became increasingly available. The Rosenwald example is in remarkable shape for a piece of cloth that is almost 600 years old.

No need for a Gutenberg

In the same year (1943) that Rosenwald gave his prints to the National Gallery of Art, he gave his now-famous collection of rare books to the Library of Congress. He has added to it over the years. It does not include a Gutenberg Bible, since the Library already owned one of the three extant perfect copies printed on vellum. But it does have the first Bible in German (Gutenberg's was in Latin) with woodcut illustrations, printed at Augsburg about 1475, and a rare Latin Bible printed on vellum by Nicolaus Jenson of Venice in 1476.

The collection also contains a 1491 edition of *Fior di Virtu,* published in Florence—a quasi-religious set of instructions for acquiring virtues and avoiding vices. A 1498 edition of this volume was well known in book circles. But experts knew that there must be another and earlier edition because an illustration from a later printing matched that of a book printed in 1493. Twenty years ago Rosenwald was offered the 1491 edition and bought it in five minutes.

Among the books he has given to the Library are 160 Dutch and Flemish books from the 15th and 16th centuries which came from the library of the Dukes of Arenburg, and were formerly inaccessible to schol-

ars. Included in the group are approximately 30 unique volumes, the only copies of their respective titles known to have survived anywhere.

American rarities include a 1507 French edition of *Cosmographiae Introductio,* which contains the treatise responsible for naming the American continents after Amerigo Vespucci rather than after a mythological woman, as were Europe and Africa. Equally interesting are Alonso de Molina's vocabulary—the first dictionary of the Mexican dialect, printed in Mexico in 1555—and the second atlas ever to be printed (in a 1478 edition of Ptolemy's *Geography*).

Rosenwald is particularly fond of his collection of books illustrated by famous artists, among them Dürer, Holbein, Toulouse-Lautrec, Bonnard, Maillol, Redon, Matisse, Picasso, Rouault, Cézanne and Blake. A copy of one of these hand-colored books, Blake's *The Book of Urizen,* is a particular favorite. Rosenwald is an associate trustee of the William Blake Trust; when the trust wanted to publish a facsimile edition of this work in 1958, he generously allowed them to use his own copy. *The Book of Urizen* was dismembered and sent to Paris for limited reproduction (526 copies, of which 26 were reserved for the Library of Congress, Rosenwald and others).

Many of his rarest prints were acquired unexpectedly in one great coup just before World War II. Rosenwald had by then become widely known as a collector and was receiving dozens of letters offering prints for sale. "Most of them didn't amount to anything," he said. Nevertheless, he would always follow up a lead, no matter how unpromising. One letter came from an unknown man in Montreal, who asked whether Rosenwald would like to buy his father's print collection. "The answer is probably no," Rosenwald replied, but he suggested that the young man, Walter Aufhäuser, the son of a German-Jewish banker who lived in Munich, come to see him anyway. Several months later he arrived "with a package under his arm that looked like something from the delicatessen," as Rosenwald remembers it. "The package was unwrapped and, much to my astonishment, everything inside was carefully protected. And such prints! I could not believe what I was seeing."

There were 317 prints, superb woodcuts that the elder Aufhäuser had secretly amassed over the years and had prudently shipped to the Netherlands after Hitler rose to power. "Usually no more than a dozen like this show up in a year," Rosenwald said. "I called my friend Paul Sachs [the celebrated print authority at Harvard] and he told me that if I bought nothing else, I had to buy these."

In recognition of the outstanding nature of the Aufhäuser collection, Rosenwald has permanently acknowledged its existence with a special stamp within his own print collection.

Like other great collectors, Rosenwald has his own stamp bearing his initials, which is stamped on the back of every print he has bought. This gesture is more than pardonable pride of possession. The provenance (collecting history) of an old print is as vital as the history of a painting. Any print known to have been in a great collection is pretty sure to be authentic and of good quality. However, even great collectors can be wrong on occasion.

"If you are afraid to make any mistakes, you shouldn't collect," Rosenwald said. "I've been badly bitten. But I try not to make the same mistake twice."

"Originals" from 1909

Some time ago he bought, from a respected dealer, two engravings that had been in the famous Otto collection and were pasted in a 15th-century manuscript. They were considered to be early Florentine (15th century) and rare, since they dealt with the theme of courtly love at a time when almost all prints had religious themes.

Recently, Rosenwald's curator, Fred Cain, was working on the catalog for an exhibition of about 200 15th-century Italian engravings from the collection. Cain had finished all the work, but something about the two "Florentine" prints made him suspicious. He studied the paper and compared its chain lines and watermarks with those in the paper used for a facsimile edition of the same prints published in 1909. They were identical.

"Someone," Cain said, "had cut these prints out of the 1909 book and then pasted them to the pages of a 15th-century manuscript. We consulted several experts, all of whom agreed that they were fakes. The dealer who had sold them to Mr. Rosenwald took them

back and returned his money, but a few months later they were on the market again as originals."

But, according to Rosenwald, "There aren't many of these incidents. After a while you get a feeling simply from seeing the print; you develop a sixth sense. If you ask a lot of people, they will say that I am an expert. That's only because of their ignorance. When one has been associated with a collection for this length of time, something has got to rub off. But you can't compare what I know with what the real professionals know. They spend their lives at it, and I can't do that."

One of the professionals Rosenwald most admired was the late, great art historian Irwin Panofsky of Princeton. "He never forgot anything he ever read. You respect that kind of knowledge. I remember that he once gave a lecture on the symbolism of the Rolls Royce radiator cap. He always had a wonderful sense of humor."

He no longer collects as much as he used to. "When you've been buying as long as I have," he said, "you are your own worst competitor. You have to say, 'I'd like to buy it, but unfortunately I already own it.' "

Rosenwald has summed up his philosophy in a preface to the catalog of one of the many exhibitions of his prints at the National Gallery of Art. "Great prints that have survived," he wrote, "are those which have been loved and cherished for generations. After all, it is the reaction generated in the mind and heart of each individual which really matters. The print that stimulates or 'appeals' to him is *his* to enjoy and *his* to appreciate."

Lessing Rosenwald in his office, surrounded by his Daumier bronzes. The portrait is of his father.

A patch of history hangs on a barb

Valuable strands of old barbed wire recall promoters, millionaires, range wars and the fences that tamed the Wild West

"This is the finest fence in the world," John W. Gates told a crowd of cattlemen assembled on San Antonio's Military Plaza. "It's lighter than air, stronger than whiskey and cheaper than dirt."

On cue, a cowboy waving a flaming torch stampeded about 50 head of Texas longhorns into the square. The cattle repeatedly charged the eight restraining strands of wire bristling with steel barbs. When the dust settled, the animals stood panting and beaten in the middle of the square—as far from the stinging wire as they could get.

In spite of his penchant for flamboyance, "Bet-a-Million" Gates had told the truth. The new fence was cheap, strong and light indeed, compared to stone walls, split rails and planted hedges—all of which were hard to come by in the plains. Such dramatics sold the idea of barbed wire to cattlemen who had previously discouraged fencing with six-guns.

Thorny branches such as this are nature's fences; one inventor emulated them in 1868.

Double-pronged strand by W. H. Frye of Iowa somewhat resembles Glidden's "Winner."

But when wire caught on, it caught on in a big way. By 1880, approximately 80.5 million pounds of barbed wire stretched across the growing West. One Texas ranch boasted 1,500 miles of it. Eager cattlemen often fenced in federal land assigned to homesteaders, and bloody range wars erupted. The government stepped in to prevent ranchers from building barbed wire kingdoms, and homesteaders from snipping them apart with wire cutters—an offense that is still on the books as a felony in Texas.

Barbed wire restricted the great, sprawling cattle drives of the post-Civil War years, and held in check the exploitation of free land by open-range ranching. As it lined the youthful face of the West, it made a few fortunes farther east—thanks partly to Gates' skill as a promoter. Scores of types sprang from the brains of inventors eager to cash in on the bonanza. Lawsuits were almost as exciting as range wars, and claims rivaled western tall stories. One maker advertised that his copper barbs would ward off lightning.

After 18 years of dispute, Joseph Glidden of Illinois was awarded rights to the basic patent, and his type of barbed wire is essentially that which is used today. But the other types which proliferated mostly during the 1870s may now be worth small fortunes to some of the 50,000-odd barbed wire collectors in this country who use metal detectors and may pay $200 for an 18-inch rarity. LaCrosse, Kansas, "Barbed Wire Capital of the World," has a barbed wire hall of fame, annual swapping days which attract hundreds of collectors and a parade featuring Miss Barbed Wire.

The Smithsonian has a large collection in the Museum of History and Technology, covering the various types. Only one feature is missing—a piece of trouser seat impaled for posterity on a rusty barb.

Alan Linn

Murderous tangle of barbs distinguishes
World War I fencing—an effective defense measure.

E. M. Crandall of Chicago invented this oddly shaped
Champion Zigzag in 1879, but it didn't catch on.

The Holdfast, or Merrill Twirl, was the
brainchild of J. C. Merrill of Turkey River, Iowa.

Hypnosis: Many scientists use it, but there is doubt it exists

The old practice has bounced from medicine shows to psychiatric offices, while researchers try to learn what it really is

The traditional

Most people get a bit uncomfortable when hypnotism is mentioned. They recall a vaudeville stunt, a shabby joke in which volunteers from the audience were induced to behave like chickens or bark like dogs. For a quarter you could buy a pamphlet explaining how to hypnotize your friends. Most of us remember, too, novels and movies in which a beady-eyed hypnotist did terrible things to the heroine.

Since around the time of the French Revolution, when modern hypnosis was first described, it has had recurring periods of medical interest. As an adjunct to treatment, the practice is approved by the American Medical Association. It is used in dentistry to make people insensitive to pain. The American Psychological Association has created a division devoted to the study of hypnosis. Yet despite intensive research efforts, scientists cannot agree about what hypnosis really is.

To understand something about this phenomenon, watch an example of it. A young woman enters the office of a fashionable New York psychoanalyst, not to be psychoanalyzed, but to break her smoking habit through hypnotism. The psychoanalyst, Dr. Herbert Spiegel, associate clinical professor at Columbia Medical School, is no demonic hypnotist; he is small and balding and has a friendly smile. He is confident that he can hypnotize this patient. Nearly 70 percent of all adults can be hypnotized; nearly 90 percent of all children can be put into a hypnotic state.

Dr. Spiegel asks the young lady to sit in a comfortable chair, shut her eyes and concentrate on relaxing. While she relaxes she may as well imagine a pleasant, floating feeling. Dr. Spiegel elaborates on the idea of relaxing and floating. "Good," he says from time to time. "That's very good."

"Now," he goes on, "as you concentrate on the floating, I am going to concentrate on your left arm. Shortly I am going to stroke your middle finger. After I do this you will develop sensations of movement in that finger.

Madeleine Lundberg was the author of the story on LSD in the January 1971 SMITHSONIAN.
Lawrence Massett is a Washington free-lance writer who often covers scientific subjects.

By Madeleine Lundberg and Lawrence Massett

"beady-eyed hypnotist did terrible things. . . ."

Then the movement will slowly spread, causing your left hand to feel light and buoyant, and you will let it float upward."

Soon the young woman's hand floats up like a balloon and hangs gracefully in the air by her head. She opens her eyes to peek at it, and giggles. Dr. Spiegel grins too. "Now you see what it is like to be hypnotized," he says.

What's amazing to the young lady is that her hand seemed to rise effortlessly, of its own accord. She shuts her eyes again, and he has her repeat his antismoking suggestions: "For your body, smoking is a poison. You cannot live without your body. You owe your body respect and protection." The patient learns these suggestions by heart.

In the remaining time Dr. Spiegel shows the patient how to hypnotize herself. Since she now knows what hypnosis feels like, it's simple. She counts to ten, her arm floats up, she's hypnotized; she counts to three, her arm drops, she's awake. Dr. Spiegel modifies her arm gestures until she seems merely to be touching her forehead. Finally she can do the whole routine very fast. Still, she has time, while in her self-induced hypnotic trance, to repeat the antismoking reminder.

Hopefully this patient will stop smoking. About 25 percent of Dr. Spiegel's patients do give up cigarettes after a single hypnotic session. If this one stops, she will probably give the credit to hypnosis. Psychologists, however, feel that the answer is not that simple.

Some patients, put through the same hypnotherapy, might *not* feel particularly different, might *not* respond to hypnotic suggestions such as hand levitation, might *not* behave as if they were hypnotized—but nevertheless stop smoking! Others, who are profoundly affected during the session, may continue to smoke, at least after a few days. All psychologists agree that hypnosis is only one of many factors determining whether the patient stays away from cigarettes or not. Some feel that hypnosis may not even be a useful concept to describe the occurrence of these events.

Because of the difficulty of rigorously defining hypnosis in other ways, Dr. Martin Orne, professor of psychiatry at the University of Pennsylvania, has considered it "that state or condition where subjects are able to respond to appropriate suggestions by distorting their perception or memory." He would feel that Dr. Spiegel's patient was hypnotized because the suggestion of lightness altered her perception of her hand. A hypnotic suggestion of amnesia similarly alters the ability to remember. "This altered subjective experience is the essence of hypnosis," says Dr. Orne.

Devotees of horror movies and Gothic novels are familiar with the phenomenon called post-hypnotic command. The villain hypnotizes someone and says, "After you come out of this trance you will do such-and-such. But you won't remember I told you to do it, and you won't wonder why you're doing it. You'll just go ahead and do it." Then the poor victim wakes up and dashes away, completely oblivious, to rob a bank or murder his aunt.

Mystery of post-hypnotic command

In real life, post-hypnotic command doesn't work so neatly. On one occasion, Dr. Spiegel was sitting with a young man in a television studio, filming a hypnotic experiment. Dr. Spiegel hypnotized the man and gave him, as a post-hypnotic command, the idea of denouncing a Communist conspiracy in the television industry. The young man was politically liberal and had some real knowledge of television. Nevertheless, as soon as he woke up from his hypnotic trance, he began to slander every television personality he could think of. In no time at all he had made up an astonishing

Illustrations by Michael Ramus

Gateway suddenly opens into a corner of the mind

conspiracy theory. When pressed for details he became self-righteous and irritable.

So far, this was a good example of suggestibility, familiar to the horror-movie addict.

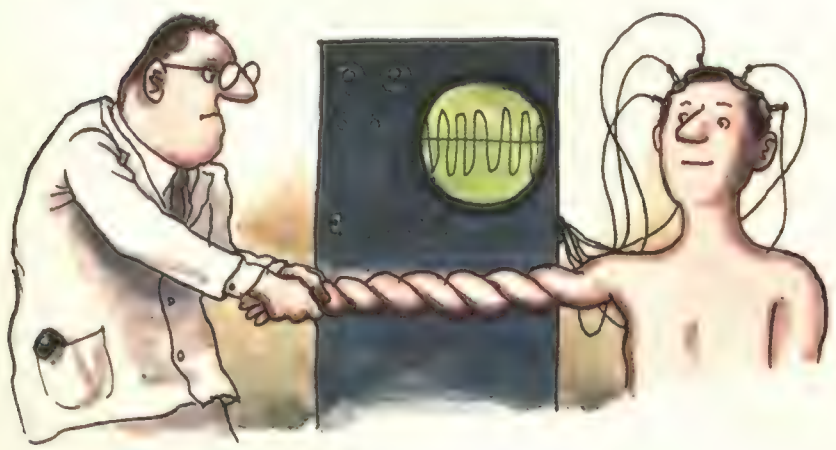
But then, for a climax, the young subject pointed to a sheet of paper that was absolutely blank, and insisted that it contained the names of Communist agents in the television industry—a suggestion Dr. Spiegel had given him under hypnosis. Everyone could see that there were no names on the paper. How could the subject act so implausibly?

To psychologists, the intriguing point about what they call hypnosis is not the subject's suggestibility, but his lack of common sense. "In hypnosis there is a tolerance for incongruity," says Dr. Orne. "People, for some reason, are not bothered by the fact that things don't add up. They seem to act to the beat of an altogether different drummer." This strange beat is called trance logic. It is certainly not an absence of logic, but a peculiar brand of it.

In investigating trance logic, Dr. Orne has developed a technique where the behavior of subjects pretending to be hypnotized is compared to that of deeply hypnotized patients. The hypnotist does not know which is which, and cannot easily distinguish between the two groups. But with care, some differences can be established. A hypnotist may suggest to a subject that he hallucinate Dr. X in the right-hand corner of the room. The subject will see him there and talk to him. The hypnotist will then point to the real Dr. X, actually in the room, but outside the subject's range of vision, and ask, "Who is this?" If the subject is simulating hypnosis, he will probably answer, "I don't know," or "Dr. Y," or "There is no one there." But if the subject is deeply hypnotized, he will probably look at the real Dr. X, then look back at the hallucinated Dr. X and exclaim, "There are two of them!" Though mildly surprised and perplexed, the hypnotized subject tolerates the incongruity of his conclusion.

One of the most famous investigations of trance logic was carried out by Dr. Milton Erickson, an Arizona psychiatrist and a pioneer in using hypnosis for psychotherapy.

Over the course of many years, Dr. Erickson asked hypnotized subjects to pick out some object in the room, like a vase, or a book and to imagine a painting of that object. Then he asked the hypnotized subject to hang this imaginary painting somewhere in the room. People who were not hypnotized simply hunted around the walls for a good spot to put the imaginary painting. Hypnotized subjects hung the painting directly over the object it was supposed to represent. If it was supposed to be a painting of a vase, it went right over the real vase. If it was a portrait, it went over the head of the person portrayed. While following this procedure, the subjects ignored the structure



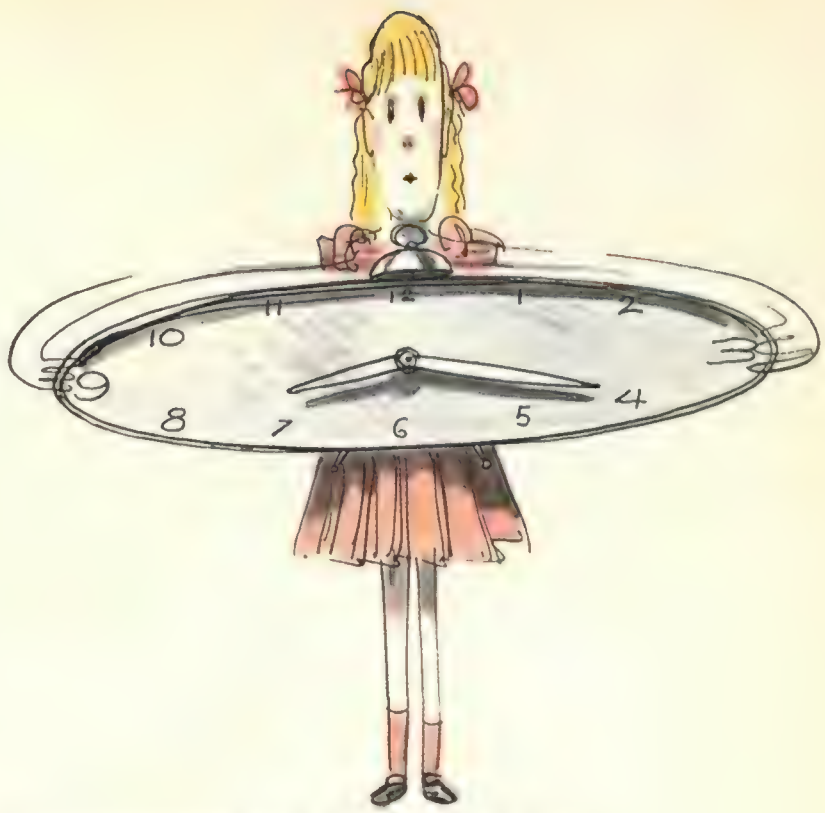
"Willing subject can become insensitive to pain"

of the room. They blithely fixed paintings in midair, in doorways, across windows—wherever the real objects were. In hypnosis, they had a rule for hanging paintings, and that was that. When their rule conflicted with mundane factors like walls and doors, reality went under.

You may conclude it would be impractical to hire a hypnotized interior decorator. Another conclusion is that this dreamlike disregard for reality points straight to the greatest discovery of modern psychology, the subconscious.

The subconscious is a vast territory, obscure and fantastic. Much of it we do not understand, although supposedly we all have a subconscious and return to it in dreams each night. Psychiatrists regard hypnosis as a gateway, suddenly opening into a corner of the mind that is normally kept barricaded. Says Dr. Spiegel: "With the help of hypnosis we can uncover repressed emotions and recall both the literal and the imagined past."

With hypnosis, the therapist can speak directly to the subconscious in a disturbed patient. There are other ways to reach this goal, but with hypnosis the therapist can get into immediate touch with the unreasonable side of his patient, and he can become equally unreasonable.



Subjects can expand their sense of time

Case of the migrating tic

Dr. Erickson, who is known for highly personal, unconventional methods, once treated a patient whose bad facial tic so embarrassed him that he had given up all social life. Dr. Erickson hypnotized him and told him to move the twitch down to one of his toes. Under normal circumstances, the patient might have protested that this was impossible. In the illogical state of hypnosis it seemed feasible, and he did it. Thereafter he was fine socially as long as he kept his shoes on.

Freud used hypnosis when he began treating neurotic patients, but soon abandoned it to analyze the intricate workings of the subconscious. This trend, some psychiatrists believe, could well be reversed. Dr. Spiegel says, "To cure neurosis, we do not necessarily have to understand it. Hypnotic treatment can conceal symptoms and help the patient achieve mastery. One of my patients stopped smoking after hypnotic sessions. A month later she suddenly found herself riding up an escalator, in spite of the fact that she had been afraid of escalators for the past 20 years. By mastering her smoking habit, she had unwittingly mastered one of her fears."

Dr. Spiegel and others also make therapeutic use of another hypnotic phenomenon called age regression. Here the hypnotist asks his subject to travel back in time to an earlier age—perhaps ten years old, or five. The subject then relives his memories. Some years ago the technique acquired an awful reputation, when a few hypnotists claimed to regress their subjects past the moment of birth to a "previous incarnation." For a while previous incarnations were wildly popular.

Today, psychiatrists point out that memories dredged up under hypnosis are not necessarily true. Dr. Orne has performed numerous experiments showing that hypnosis cannot magically turn people into children. People are just as good at pretending to be ten years old when they are wide awake. The main difference is that hypnotic age regression brings out the familiar oddities of trance logic. Dr. Orne recalls a subject who was regressed to the age of six and gave a brilliant performance. His speech, his handwriting and his knowledge of the world were all like those of a six-year-old. Then suddenly, with cheerful incongruity, he printed and spelled correctly, but in a childish scrawl, "I am conducting an experiment which will assess my psychological capacities."

Therapists don't mind if age regression is untrue. They are only concerned with what a patient subconsciously *believes* to be true about his past. If a patient in hypnosis claims to have been Julius Caesar before birth, the therapist gains an important piece of information about the subject's opinion of himself.

Remarkable things happen to people "in hypnosis." A willing subject can become insensitive to pain. Major operations including open-heart surgery and caesarean section have been performed with hypnosis as the only anesthetic. Many hypnotized subjects can see and hear things that do not exist, or become blind,

deaf or numb to things that do. They can expand their sense of time so that a minute seems like an hour, or contract it so that an hour passes like a minute.

Lately, scientists have become interested in the psychedelic possibilities of hypnosis. "I am interested to see whether hypnosis can be used as a substitute for psychedelic drugs," says Dr. John R. Lenox, research psychologist at the Maryland Psychiatric Research Center, the Baltimore institute that does most of the country's research into mind-altering drugs (see SMITHSONIAN, January 1971). "I have an opportunity here to contrast hypnosis to LSD-induced states. We have done experimental religious meditation under hypnosis and produced remarkable peak experiences, similar to the mystical states brought about by LSD," says Dr. Lenox.

For more than a century scientists have been unsuccessful in their efforts to explain hypnosis. They cannot say what it really is about. They know how to use it, and think it is linked to the subconscious. One difficulty in investigating hypnosis is the hypnotized subject's eagerness to respond to subtle cues that may indicate what the hypnotist really wants. Thus the context in which suggestions are given, the inflections of the voice—all communicate what is desired. It is easy to imagine how two hypnotists, with different expectations, could each observe diametrically opposite behaviors.

Another embarrassing difficulty: No one can be sure when a person is hypnotized and when he is not. Sometimes people are more suggestible when hypnotized. Sometimes they display trance logic. Once in a while they even look funny, with the odd sort of blank expression you see in the movies. Unfortunately, none of these things always happens. There is no invariable sign to which one can point. Scientists have searched hard for some physiological sign like heartbeat or brain-wave patterns that might define hypnosis. So far, they have had no luck.

"As yet we have not found anything exclusively typical of hypnosis," says Dr. Orne. "We have only found physical changes that normally go along with drowsiness and relaxation."

Hypnosis while driving

If scientists cannot be sure when someone is hypnotized, they also cannot be sure when someone is not hypnotized. "We all slip in and out of trance spontaneously," Dr. Spiegel says, "when we are engrossed in a movie or a book, or when we're driving a familiar route in a car. In therapy, I don't hypnotize people; I merely show them how to use their own capacity for going into a trance."

Dr. Ernest Hilgard, professor of psychology emeritus at Stanford University and another eminent researcher, finds the whole concept of hypnosis unsatisfactory. "The only thing we know is that highly hypnotizable subjects tend to know when they are in trance and when they aren't." He also comes up with agonizing questions. "Suppose," he asks, "you are hypnotized and given the post-hypnotic command to have a paralyzed arm when you wake up. You accept the suggestion, and come out of hypnosis with a paralyzed arm. Yet, you're wide awake. Well, is your arm still in trance?"

Scientists are divided into opposing camps

In recent years a group of scientists headed by Dr. Theodore X. Barber, director of psychological research at Medfield State Hospital in Massachusetts, has lost patience with the concept of hypnosis. Says Dr. Barber: "Hypnosis has been used for 200 years. The more people think about it, the more confused they get. Eventually, in ten years or so, they'll realize the best thing to do is to drop the concept altogether."

Dr. Barber doesn't mean that age regression and post-hypnotic phenomenon and hallucination do not happen. He means that the word "hypnosis" does not explain anything. What we know, he says, is that people pull unusual stunts like age regression under the right circumstances if they want to, and if we convince them that they really can. Hypnosis is only a bit of mumbo-jumbo to help convince people they can perform these tricks.

Dr. Barber has done innumerable experiments to prove his point. They show that, with the right motiva-

tion, an unhypnotized person can do anything a hypnotized person can. If you utterly convince someone that he can hallucinate a rhinoceros, he will go ahead and do so.

Most other psychologists disagree with Dr. Barber. They point out that only hypnotizable individuals become hypnotized when they are exposed to the process, and that some highly hypnotizable subjects can enter the state of hypnosis without much help. Dr. Orne emphasizes that "doing away with the concept of hypnosis does not explain away the phenomenon. If we didn't have the concept, we would need to discover it. We will need to understand the unusual capability to distort perception and memory and so ultimately reach a better understanding of normal mental functioning on the one hand and mental abnormalities on the other."

Dr. Barber is confident that we will get used to the notion that people can do extraordinary things with their minds and stop trying to define a "hypnotic state" to justify these performances. Others insist that hypnotism does exist and that we will ultimately be able to say what it is.

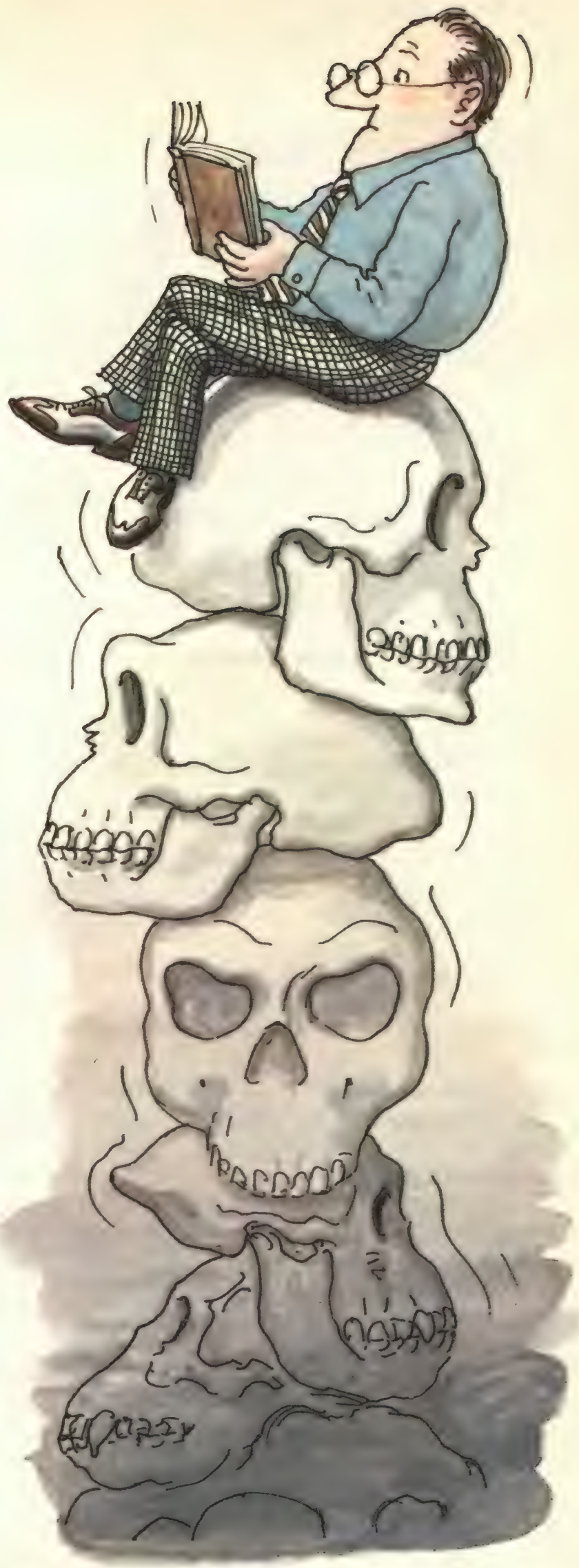
Says Dr. Erickson: "I cannot explain sleep but I am sure that I do sleep. And I cannot define personality, neither can anyone else; but we agree that everyone has a personality. We will continue to explore and discover many additional manifestations of hypnosis."

It's "in" to be hypnotized

Lately there has been an upsurge in hypnosis research. According to Dr. Hilgard, "Laboratory research has brought the problems out of the lunatic fringe. What was not acceptable to science some 15 years ago can now be fully investigated."

Says Dr. Spiegel: "The whole myth of rational man is falling apart. The new interest in hypnosis may come from a realization that we're not nearly as logical, or reasonable, or rational as we think we are. Ten years ago it was difficult to find subjects for hypnotic experiments. People found it embarrassing if it turned out they could be hypnotized. Today it's the reverse. People are embarrassed to find out they're not hypnotizable. Altered states of consciousness, like hypnosis, may well become our next fad."

Perhaps the most exciting aspects of research in hypnosis will not be what it tells us about the mind's dark secrets, but the light it may shed on the normal capabilities of normal people. Hypnosis may represent a mode of functioning that has largely been forgotten by modern man, but that he may now choose to utilize, Dr. Orne believes. Perhaps, in our world, tolerance for logical incongruity will prove to be a useful, even necessary, ability.



"The whole myth of rational man is falling apart"

By Brooks Atkinson

'40 dirty birds' hold their own but are never safe

Now restricted to a few fragile sanctuaries, the ancient thunderbird, or California condor, still survives as a reminder of the Ice Age

To some of the regional planners in Ventura, California, the condors are known as the "40 dirty birds." The neighboring Sespe Condor Sanctuary blocks some grandiose plans for regional development around Ventura. Condors are scavengers; they feed on the carcasses of cattle, deer, sheep, horses, rabbits, ground squirrels and other animals in the field.

Human beings consume carcasses more fastidiously; they prepare the meat more tastefully and inhibit the stink by refrigeration. The California condors are blunter, but they do have some fastidious habits. After feeding they clean their heads and necks by rubbing them on the grass, and they bathe frequently—sometimes twice a day—and then spend a lazy hour or two drying their wings in the sunlight.

Nonetheless, scavengers rank low in the human scale of values: They seem to be defiling the dead. Murderers, like the bald eagle and the peregrine falcon, are admired. Their ruthlessness and speed are respected by a civilization that squanders a major portion of its energy on killing people.

The condor is a notable bird. It is the largest land bird in North America; a wingspread of nine feet seven inches has been reported. When it roosts it is nearly four feet tall; when it stands with its wings raised it is almost six feet tall. It weighs 20 or 25

North America's largest land bird, a condor spreads its wings, nine feet from tip to tip.

This is adapted from This Bright Land *by the naturalist and former* New York Times *drama critic. Publisher: Natural History Press.*

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Audubon never saw a condor. His painting (above) was done from sketches by other naturalists. Author Atkinson considers it to be overdramatic.

pounds and its natural life-span is 30 to 40 years. It can soar at the rate of 35 miles an hour and at elevations of 10,000 to 15,000 feet.

The condor is part of ancient history. When it methodically lifts out of a canyon on thermals an hour or two after sunrise and slowly swings up into the sky, it is continuing a strand of the loose and predatory world of the long extinct saber-toothed cat, mammoth and mastodon, when all the life on Earth was wild and many of the animals gigantic. It is a living fossil.

The figure of 50 to 60 birds extant is an estimate correlated from the reports of qualified observers in condor country. All of the birds that remain in the United States are concentrated in a U-shaped area about 200 miles long in southern California. But condors once covered the Pacific Coast from Canada to Mexico (where there continue to be unsubstantiated rumors of condor sightings) and spread across southern North America to Florida.

As human civilization has spread up and down the land the range of the condor has shrunk into wilderness that is difficult of access and still bears some resemblance to the primitive land in which the condor flourished. Now Fresno is about the northern limit of the range and Fillmore is believed to be the southern limit, and condors do not usually go east of the Sierras.

They have been regarded as on the verge of extinction since 1890. In 1932 Alexander Wetmore of the Smithsonian Institution estimated the total population at ten. Seven years later the American Ornithological Union estimated the population at 50, and in 1943 Joseph Grinnell and Alden Miller of the University of California made a rough estimate of 100 birds. Large numbers of birds were seen by several people in the succeeding years. Carl B. Koford made a careful estimate of condors in the field for the National Audubon Society between 1939 and 1946; he estimated the total population to be about 60.

During the two years when they were doing the field work for another report, in 1963 and 1964, Ian and Eben McMillan concluded that the total population was only about 40—if true, an alarming loss of a third of the condors in about 20 years. But a careful and more extensive recount, under the direction of the California Department of Fish and Game, estimated the population in 1971 to be closer to 60, although the rate at which condors reproduce is declining. There were six known active nests in 1967. But in each of the last three years there were only one or two known active nests; and the number of immature birds in the field seems to be declining.

Everything about the condors—their appearance

and their habits—suggests a creature from a forgotten epoch. The condor's time sense is strange; it does not have the nervous drive of most birds. Not long ago three bird watchers inadvertently strayed into the neighborhood of a condor nest, or so they supposed. A condor saw them and perched immobile for two hours waiting for them to leave. They left, their time sense being more nervous than the bird's. Koford saw and timed one condor that remained on one perch for more than 21 hours.

John James Audubon never saw a condor in the field. His plate, which he apparently made in London in 1838, is derived from the notes and sketches of other ornithologists. The original Audubon sketch is overdramatic, as are many of his plates, but it does present the condor as a bird with a unique appearance and style, alien to modern civilization.

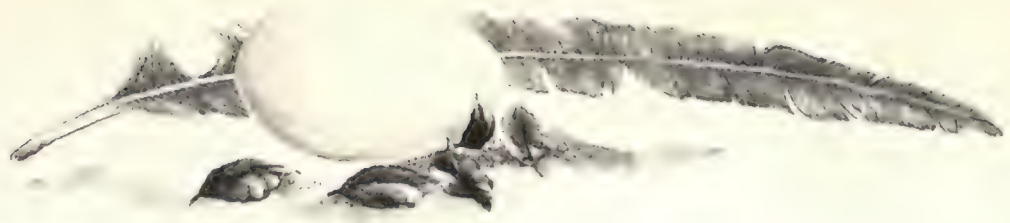
Ponderous, unaggressive and honored

Condors nest in caves or clefts at elevations of from 1,500 to 5,000 feet. A pair produces one egg every two years. The egg is four or five inches long and two or three inches thick—very pale blue or green, and it weighs eight or ten ounces. The period of incubation is about 50 days, and the young bird remains dependent on the parent birds for seven months to a year. During so precariously long a time schedule, many things—including disturbance from external sources or the intrusion of a predator—can destroy the young bird. The population of the condors cannot sustain many accidents that destroy young birds.

In the air condors are not aggressive birds. Although they have long wings, they cannot fly with the virtuosity of hawks and eagles. Flapping their wings is not their basic means of locomotion. They soar on thermals set up by the warmth of the sun or ocean wind currents in the canyons where they roost. When the thermals begin to rise in the morning the birds take off from the roost with a heavy flap of the wings and then rise on the buoyancy of the air. On flat ground they have to run ponderously into the wind before they are airborne, and if there is no wind they have difficulty getting up. If, as sometimes happens, they have stuffed themselves too full of food, they have to wait—perhaps overnight—until some of the food has digested and wind has come up.

Man is the condor's principal enemy. With a few minor exceptions, his contacts with the condor have been destructive. To the Indians along the Pacific Coast the condor was a sacred bird that represented immortality. The condor was an honored bird; the Indians called it the thunderbird because they thought it caused thunder by flapping its wings, but the condor was always, paradoxically, killed in their cere-

At its nest high up a canyon wall, a condor is disturbed by the presence of the photographer.



Condors lay only one egg every two years.
Collectors have "valued" them at up to $300.

After a 50-day incubation, the new condor
depends on its parents for up to a year.

mony. Man and death are identical in the experience of the condors.

During the 19th and early 20th centuries collectors took many condor eggs. An egg taken in 1908 sold for $300 and eggs as valuable as that naturally excited egg collectors. There are known to be 60 condor eggs in various collections. Seventeen condor chicks are also known to have been taken from nests, but probably there were more robberies than that. Since the beginning of the century 70 to 100 eggs and chicks have probably been taken—making a big hole in the total condor population.

But the greatest menace to the condors has always been shooting. In the first place, there are hunters who regard them as objectionable birds, unfit for the admiration of decent human beings. Second, the huge size of the condors makes them an attractive target.

Although the condor has been protected by law for years, most of the inexperienced hunters in the Los Angeles area don't know what a condor is. In 1908 a man was fined $50 for shooting and attempting to sell one at a nest near Pasadena, the only instance, according to Ian McMillan, in which a man has been successfully prosecuted for killing a condor. Fifty-six years passed before another hunter was prosecuted for shooting a condor. When the hunter pleaded ignorance and declared that he thought he was shooting a vulture, the judge amiably dismissed the case, although the turkey vulture is also protected by law.

Like all scavengers, condors can tolerate more poison than most organisms can, but poisons, pesticides and the deadly Compound 1080 taint the condor's feeding area. In 1890 Dr. J. G. Cooper declared that poison used to kill wild animals in the agricultural and grazing parts of their range was one of the two principal dangers to the condor population. It is the same today. Carcasses dosed with strychnine to kill coyotes also kill condors. At least two condors are known to have died from feeding on poisoned carcasses in 1960 and 1963, and doubtless there have been others never reported.

In 1966 two quail hunters moving over a ranch near Santa Barbara found a condor in great distress near the carcasses of a calf and a coyote that had been dosed with strychnine. The condor was almost dead; he could hardly move.

The hunters notified the local game warden who in turn notified John Borneman, the National Audubon Society's condor naturalist in Ventura. The next day the sick condor was taken to the Greater Los Angeles Zoo where he was treated with antibiotics. After being fed and treated with antibiotics for three days he recovered sufficiently to snap at the fingers of his attendants. After 10 days he was adjudged ready to be returned to the ranch where he had been discovered. He was feeling more vigorous and aggressive than his handlers had been expecting.

When the cage was opened at the ranch he charged out briskly with his wings spread, and after stumbling once or twice he flew off to a dead tree in a canyon where he could perch and adjust himself to a return to the wild. He did not have the strength to get into the air until the next afternoon when he flapped out of the tree and glided out of the canyon and eventually gained enough altitude to head off for the mountains. He had submitted to being handled when he was weak, but he had not surrendered his independence.

During the last 35 years various government agencies—the U.S. Forest Service, the U.S. Fish and Wildlife Service and the California Department of Fish and Game—have tried to protect the condors by setting aside areas for their use. In 1936 Robert E. Easton, a rancher in Santa Barbara County, vigorously opposed a Forest Service road that would have invaded a condor roosting and nesting territory in Sisquoc Canyon in Los Padres National Forest. His protest and the support of the National Audubon Society resulted in

the first condor sanctuary—the Sisquoc Condor Sanctuary of 1,200 acres, established in 1937. It regulates public access to a wilderness that condors use for bathing, roosting and nesting. Here among cliffs and waterfalls they yawn, preen, sun and dry themselves, wash, belch and bicker among themselves, which is their normal behavior.

A much larger area was established in 1951 about 50 miles southeast in Ventura County. The Sespe Condor Sanctuary, as it is called, consists of 53,000 acres of brush, grass, woodland, mountains, cliffs and creek water—ideal for condors. It is semiarid country; wind from the sea sweeps up the mountains and provides the thermals on which condors can leap off their roosts and circle into the sky.

But it is difficult to maintain the integrity of a condor sanctuary. Most people do not believe that the needs of condors should take precedence over the convenience of human beings. Exceptions to the administrative rules look reasonable.

When bird watchers and other conservationists opposed a highway through condor country in 1965, an indignant citizen who favored it said that it would be a good thing if some condors were shot and stuffed so that bird watchers could sit around and look at them to their hearts' content.

Incredible as it may seem, until recently the Forest Service continued to honor previously issued permits for grazing and oil drilling in the Sespe Sanctuary. But grazing is forbidden now, and the new restrictions on oil drilling (not within a mile and a half of condor nests or potential nests) sound reasonable from the political point of view. But not from the point of view of resident condors: Oil drilling is not part of their political economy. Photographers, with or without permits, invade the sanctuary to take pictures of condors close at hand. For these and other reasons the birds feel crowded; no condors are known to have nested successfully in the Sespe Sanctuary in 1968 and 1969.

The most serious threat to that sanctuary was the proposed Topatopa Dam designed to provide flood control, enlarge water supply and widen recreation facilities in Ventura County. As originally planned, the dam would have been only a little more than a quarter of a mile from the condor nesting area. A public road would have to be built through the sanctuary; and the local chambers of commerce foresaw a profitable invasion of water skiers, campers and fishermen around a lake behind the dam.

The extent of self-hypnosis such schemes induce is indicated by one bland statement included in the promotion material: Many qualified people, the statement asserted, believe the condor can have his status in life improved as a result of the project. It was only a public relations gambit. At this time the condors came to be known as the "40 dirty birds" that were holding up a typical American improvement project. One public-minded citizen remarked that the problem could best be solved by killing the condors and thus permanently removing them from Ventura County. In 1965 the taxpayers of the area voted down the Topatopa Dam project, not so much out of devotion to the birds as because they were persuaded that there was a cheaper way to improve the water supply. In 1970 the then Secretary of the Interior Walter J. Hickel blocked the project more decisively: He said he would not approve any water resources project that would endanger the California condor.

How not to help condors

The condor cannot be absorbed into our economic system; it cannot contribute anything tangible to the Gross National Product. It still needs some of the isolation condors were familiar with in the Pleistocene epoch. In their years on Earth condors have changed less than Man has. Their response to human intrusion seems to be temperamental. They are not so much afraid as confused when a man comes within 500 yards of their living area. They nervously regurgitate their food and leave their nests. They have group reactions. One condor may let one man come to within 100 feet before taking off, but groups of condors take off when a man is 200 yards away. The nervousness is infectious.

From our point of view condors are not consistent. In the field, away from roosting areas, they seem to be curious about human beings. As they float out of the canyon in the morning they swing close to intruders whom they look over deliberately. They seem not to be afraid in this circumstance, but curious. Despite the presence of many people on Pine Mountain, condors pass over casually and close.

But as Carl Koford observed: "One man can keep a pair of condors from the egg all night or prevent the feeding of a chick for an entire day merely by exposing

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himself within 500 yards of a nest for a few minutes at one or two critical times of the day. Loud noises can alarm condors at distances of over one mile. Individuals or groups of persons moving about must keep at least one-half mile from condor nests in order to avoid disturbance of the parent birds. If the adults soar or perch nearby when a man is close to the nest, it is because of their concern for the nest or its contents and not because of their tameness. It is impossible to photograph nesting condors without disturbing them and causing serious deviations from their normal actions." Condors do not understand human beings. Their great days long preceded the arrival of human beings in their territory.

Just about everything seems to be against their survival. By the standards of the 20th century they seem obsolete. Descended either directly or in two stages from the Pleistocene epoch, which was much simpler and more primitive, they seem not to have made the adjustments of a viable species, like the turkey vultures and the red-tailed hawks or ravens that share their sky. But the reduction of the condor population is not necessarily proof of the end.

Twenty years ago the population of the Hawaiian goose was possibly as low as 30, but now it may be as high as 700. Once the trumpeter swan seemed to be a doomed species. There are a great many trumpeter swans in the wild today.

And our attitudes may be wrong. Although condors have been around for eons we may not know many of the essential things about them. They may *not* be living fossils; they may be living laboratories, in the words of S. Dillon Ripley of the Smithsonian Institution, "waiting for the ever-increasing skills of scientists to interpret. What a catastrophe if the story were to be destroyed before its meaning could be unraveled, the code uninterpreted before it is lost."

But the California condor has a simpler value. It is a breathtaking part of the American heritage, like the Grand Canyon and the coastal redwoods. To people aware of the wonders of the universe it is one of the ancient mysteries—huge, aloof, a ponderous shape out of the remote past. As long as it survives it is a natural resource that will help prevent America from degenerating into a stupendous parking lot or a colossal slum. When Ralph Waldo Emerson gazed at the winter sky he imagined that the stars asked him: "Why so hot, little man?" The condors ask us similar questions: Why so impatient, why so sure, why so omniscient, why so callous?

Soaring high on a thermal, the ponderous California condor becomes a creature of surpassing grace.

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Book reviews

Benjamin Banneker
Silvio A. Bedini
(Scribner's, $14.95)

Here is an engrossing account of one of America's first black men of science. Banneker was by any standards a remarkable man born into a remarkable family. His grandmother was an indentured English servant-girl, Molly Welsh, who earned her own freedom in the colonies, acquired a farm and two male slaves and then freed her own slaves and married one of them. A daughter married a slave from West Africa who pioneered a tobacco farm in Maryland. He was Banneker's father.

Benjamin acquired a rudimentary formal schooling and abiding love for nature as he helped his father in the tasks of cultivation. Isolated by space and distance as well as by their status as freed Negroes, the Banneker family fought to preserve their agricultural livelihood.

Young Benjamin first came to public attention when at 22 he constructed his own wooden clock, one of the first in America. Farming left him little time to pursue his mathematical and scientific interests until, at age 47, he was befriended by George Ellicott, 29 years his junior and member of a merchant family which had established a flour mill near Banneker's home. Ellicott loaned the mathematical and astronomical books which enabled Banneker to take off intellectually. He went on to participate in the federal land survey of what was to become the city of Washington, to publish his astronomical calculations in a series of almanacs between 1792 and 1795 and to make an eloquent plea for an end to slavery in an exchange of correspondence with Thomas Jefferson, then Secretary of State. He died peacefully in his 75th year in 1806, having acquired repute through antislavery societies in America and Europe which cited him to refute notions that blacks were intellectually inferior.

Mr. Bedini, deputy director of the Smithsonian's Museum of History and Technology, has painstakingly researched the world of 18th-century rural Maryland, Banneker's scientific self-education and the prevailing notions of science at the time. His is a thoughtful and intelligent book although at times a bit tedious in its attention to detail.

Its principal flaw is the failure to place Banneker in historical context. Was he an isolated figure who because of freed status, rural background and fortuitous friendships was able to pursue his scientific interests? Were similar opportunities denied other freed black men in other settings? Did the hardening of racial attitudes at the end of the 18th century close intellectual doors to his heirs, including one nephew stripped from the voters' rolls in Maryland in 1810?

A wealth of detail is provided on 19th-century accounts of Banneker's life, with passing reference to a 1949 fictionalized biography for children by Shirley Graham. No mention is made that Shirley Graham is the wife of the late W.E.B. DuBois, founder of the NAACP, and that her biography, no matter how inaccurate, was intended to demonstrate to black children that their ancestors included distinguished men of science.

Banneker deserves to be remembered as witness, by his achievements, to the tragic loss suffered by all Americans because we have for so long denied equal opportunities to persons of his race.

Aaron Segal
Former editor, *Africa Report* magazine

The Freer Gallery of Art:
Vol. I, China; Vol. II, Japan
Introductions by John A. Pope
and Harold P. Stern
(Kodansha, Tokyo, $15 per volume)

Despite years of intensive U.S. political involvement with the Far East, the average American has little knowledge of, or interest in, Oriental art or philosophy.

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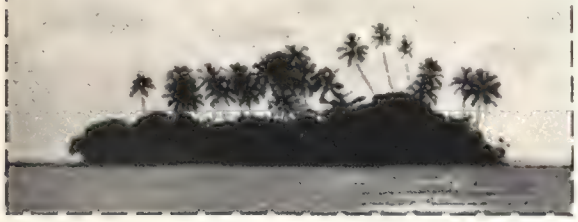

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Freer Gallery of Art, Volumes I (China) and II (Japan), is particularly timely.

Like the Gallery itself, these beautifully printed books of highlights from the Freer's collections are valuable both for beginner and scholar. Charles Lang Freer of Detroit, an industrialist who gave his collection in trust to the Smithsonian Institution in 1906, planned the Gallery so that only a small part of the collection would be on view at any one time (although the entire cache of some 12,000 pieces is permanently available to students and scholars in storage vaults and stacks). Similarly, the 131 plates in the China volume, and the 128 in the Japan book, show but a small selection of the Freer's holdings. The books beckon and intrigue, rather than reveal all.

Published in Japan, these books live up to that nation's tradition of impeccable production and avoid making objects look better than they really are.

Printed on heavy stock, both books open deliberately with views of exhibition galleries. Freer felt that beauty needs "broad spaces in which to expand and radiate" (as his friend and associate, the late Agnes E. Meyer, once wrote), and that Oriental art is best seen in daylight. Both views show the Gallery's enormous, vaulted skylights, handsome walnut pedestals and uncrowded objects.

One of the Freer's famous pair of Chou Dynasty bronze tigers (Plate 10, Vol. I) is dramatically angled in a three-quarter view on a darker green ground; a Chou Dynasty terminal ornament of a dragon head (Plate 13, Vol. I) was photographed to emphasize the menacing teeth.

Brief introductions by John A. Pope, recently retired Freer Gallery director, and Harold P. Stern, the Freer's present director, tell of Charles Freer's financial career and early retirement. He devoted his last 19 years to intensive collecting. His fastidiousness quickly led him to the best of the Asian arts, even though he started with Whistler etchings, works by the American painters Dwight D. Tryon, Abbott H. Thayer and Thomas Dewing, along with Japanese art.

He made four extended trips to the Far East in 1895, 1907, 1909 and 1910-11. In Japan he became friendly with two of the country's foremost collectors and built up his fine Buddhist, Yamato and Rimpa painting collections through their advice. According to Stern, however, he struck out on his own, amassing a major collection of *ukiyoe* paintings. His independent spirit took him to the bandit country of northern China to photograph the Buddhist rock-cut temples of Kung-hsien (the Chinese government insisted he take along six soldiers in addition to his own staff). He also learned to cope with wily Chinese art dealers and to buy from the Chinese upper classes.

Charles Freer did not live to see the completed gallery, which opened in 1923. It has since become many things to many people. The American painter John La Farge called it "a place to go and wash your eyes." If you can't visit the Freer, these books are the next best thing.

Joanna Eagle
College instructor in Oriental art

Dividends From Space
Frederick I. Ordway III, Carsbie C. Adams, Mitchell R. Sharpe
(Crowell, $10)

Since that Friday in October 1957 when Sputnik I beeped its way around the Earth the United States has spent some $40 billion on space programs. Initially, prestige, competition and national image were prime reasons for embarking on the incredible voyages into space, and for a decade Congress readily approved money. Today, space flight has become unfashionable. The taxpayer asks, "What is in it for me?" Social planners urge postponement of further programs and higher priority on the domestic economy.

Dividends From Space identifies economic and material benefits resulting directly, or indirectly, from our national space program. These fall into two classes: those that are used on Earth and those that result from the operations in space.

Although dreamed about for centuries, space flight could not be achieved until Man's technology had reached a certain sophistication. Problems in organization, design, development and testing of hardware demanded new approaches, facilities, materials and an understanding of nature. As a result, applications of these new materials, techniques of manufacture and testing procedures have become available for use elsewhere. The book discusses these innovations. Examples range from airline computer-navigation systems to emergency rescue blankets; from home insulation to cooking ther-

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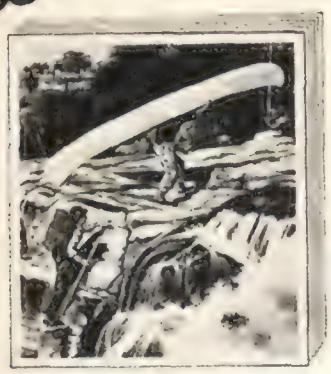

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The book is introduced by Wernher Von Braun and S. Fred Singer. And a letter by Ernst Stuhlinger, associate director of the Marshall Space Flight Center, forms an appropriate epilogue. Written to a nun in Zambia, it answers her query of how one could justify spending billions of dollars in space while millions of children are starving. Dr. Stuhlinger's sensitive and eloquent reply is a beautiful and moving statement of the benefits and logic of space exploration.

This work should receive wide readership. All of us have a legacy in the space programs of the past decade.

Frederick C. Durant III
A Smithsonian air and space administrator

The Great Moghuls
Bamber Gascoigne
(Harper & Row, $15)

This is a splendid book, magnificently illustrated by Christina Gascoigne, about a complex period of riches and ruthlessness. The time of the great Moghuls was an Elizabethan Age of south Asia. These worldly and courageous rulers descended from Turks and Mongols, via Babur, a descendent of Genghis Khan and Timur, the ferocious Mongol of the 1398 invasion of India. Timur had come and gone, pillaging as he went. It remained for Babur to conquer most of northern India and establish an empire which lasted from the 1520s to the Indian Mutiny in 1857.

The period prior to the consolidation of British control of India saw the unifying of northern India culturally and economically. There was cross-cultural fertilization with Europe, with the influence of the Ottoman Court and with the China trade. Here was a time of great development—almost, but not quite, a time of secularization. If the influence of the more benign Moghuls had prevailed, present-day history of the Indian subcontinent might be totally different.

Europe in the same period finally evolved away from the bloodbaths of bigotry and toward a live-and-let-live attitude. But the Moghul Empire continued to be swayed by religious fanaticism.

One of the most vigorous periods of Indian art was born, stemming from Persia, to some extent from Europe, and with Chinese influence as well. The cross-fertilization of these influences with the root stock of Hindu, Jain and Buddhist art was a special wonder of the age. All of this the book documents in photographs suggestive of decorative art of the time.

The history of the great Moghuls is effectively delineated against this lavish background in a straightforward text, which skillfully cuts through the genealogical maze of the men, their brothers, their heirs and their murdered sons. The times were brutal, violent and gusty, and the flavor of it all is here.

S. Dillon Ripley
Secretary, Smithsonian Institution

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Smithsonian highlights

Last year's winner: a Chinese dragon kite.

Associates Events

On the weekend of April 1, the second National Kite Flying Competition will be held in Washington, D.C. This event will be co-sponsored by the Smithsonian Associates and the National Park Service. Contestants in the National Competition must have made their own kites and be the official representative from their city. If your city holds a kite-flying competition, suggest the possibility of sending the winner to Washington for the national contest; or, suggest they endorse the winner if he wishes to come on his own. Representatives may be chosen by any means whatever, so long as standards of quality are kept in mind and only one contestant is chosen from each city. If your city does not have a kite-flying event, perhaps you can approach your Recreation Department to hold one. The Associates will be happy to send information on running a contest. Registration deadline is March 27. For information, schedule of events, or registration, write to: Kites, The Smithsonian Associates, Smithsonian Institution, Washington, D.C. 20560.

Musical Weekend in Washington

The Friends of Music at the Smithsonian and the Division of Musical Instruments will present three days of music, April 28-30, and will include tours of the Smithsonian Institution, the Kennedy Center, Wolf Trap Farm Park for the Performing Arts, and a round of special events. This weekend will be a benefit for Smithsonian Educational Programs in the field of music. For information write: Mrs. Lois Howard, Division of Musical Instruments, Museum of History and Technology, Room 4124, Smithsonian Institution, Washington, D.C. 20560.

Arts and Industries Building

"World War I Fighters" is a habitat exhibit showing a front-line forward air strip in a reenactment of the capture of a Fokker D-VII. Also on exhibit will be memorabilia of the period with uniforms, medals and a commemorative case on the Lafayette Escadrille. Opens March 21.

"Balloons" depicts the total history of ballooning from how they were invented to future possibilities, covering forms, fabrics and functions.

Renwick Gallery

This national showcase for American design, crafts and the decorative arts is now open to the public. Named for its architect James Renwick, (see February SMITHSONIAN), the gallery has opened with eight concurrent exhibitions which provide a sampling of American applied arts from traditional Indian pottery through contemporary furniture made by craftsmen in wood.

Freer Gallery of Art

"2,500 Years of Persian Art," a special exhibit of Persian treasures from the Freer collection, celebrates the 2,500th anniversary of the founding of Iran. The selection of jewelry, ceramics, miniatures and examples of calligraphy and illumination

was based on a representation of diverse provenances, types and techniques.

"The Three Laughers of the Tiger Valley," an illustrated lecture given by Professor John Rosenfield of Harvard University, will be presented on Tuesday, March 21, at 8:30 P.M.

National Collection of Fine Arts
"Drawings by William Glackens (1870-1938)" includes some 60 works of this noted Ash-Can School artist.

"Two American Painters: Fritz Scholder and T. C. Cannon" is an exhibition of 30 paintings by these two contemporary artists. Scholder combines Pop, put-on and protest in his painting. Cannon's paintings reflect a more traditional view of American Indian cultural values. Opens March 31.

National Portrait Gallery
"Washington in the New Era, 1870-1970," surveys the history of the black community in Washington, D.C., in the period between territorial government and the election of a nonvoting delegate to Congress.

Museum of History and Technology
"Early Electrical Appliances," a collection of old household items including toasters, irons, fans and eggbeaters, is on exhibit in the Hall of Electricity.

Smithsonian Commons
Luncheon facilities for members of the Smithsonian Associates are located in the original Smithsonian Building. Open weekdays from 11:30 A.M. to 2:00 P.M., the Commons offers a buffet luncheon from $1.40 to $1.85 upon presentation of a membership card.

Division of Performing Arts
"Eureka," a fantasy based on discovery and invention, will be presented by the Alan Stevens puppet company through March. The original show, written especially for the Smithsonian group, will be performing twice daily, Wednesday through Friday, and three times daily on weekends. For tickets to this presentation, call (202) 381-5395.

Traveling Exhibition Service
More than 70 Smithsonian-sponsored exhibitions open each month throughout the United States and Canada. For a complete listing write: Traveling Exhibition Service, Smithsonian Institution, Washington, D.C. 20560.

- Pensacola, Florida—"The Spanish-American War," (Pensacola Art Center, March 18-April 16).
- Lake Charles, Louisiana—"Paintings by Edwin Scott," (Art Associates of Lake Charles, March 11-April 9).
- Senatobia, Mississippi—"Dante-The Divine Comedy," (Northwest Mississippi Junior College, March 11-April 9).
- Blacksburg, Virginia—"Contemporary African Printmakers," (Squires Student Center, March 11-April 9).
- Winnipeg, Canada—"Design and Color in Islamic Architecture," (University of Manitoba, March 4-April 2).
- Albany, New York—"A Children's World," (Albany Institute of History and Art, March 11-April 9).
- Los Angeles, California—"The Frederick Douglass Years," (California Museum of Science and Industry, March 11-April 9).
- Moscow, Idaho—"Volcanoes and Volcanism" (University of Idaho, March 4-April 2).

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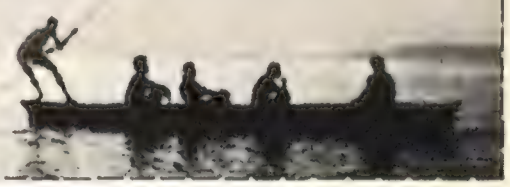

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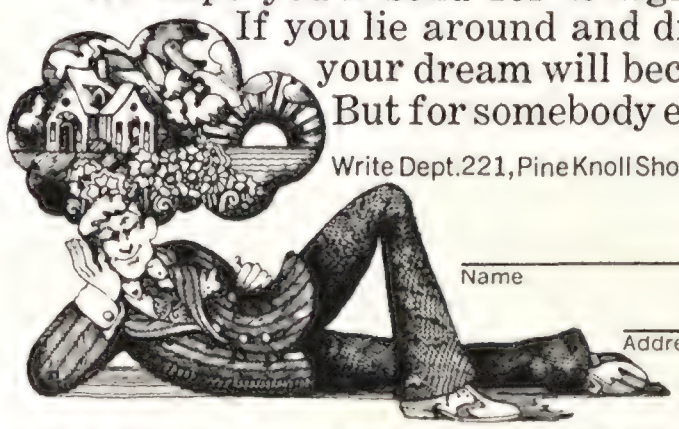

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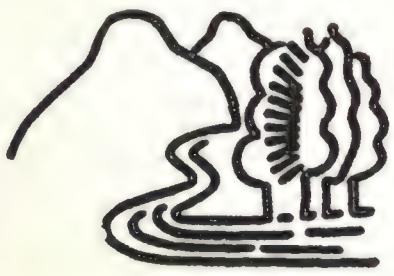

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For information: Miss Bliss Schumann, Room 123 SI, Smithsonian Institution, Washington, D.C. 20560.

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"No Tour" Tour: Dulles International Airport to Paris and return—May 29-June 19.

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Greece and Yugoslavia: A classical tour of Greek archaeological sites with a visit to Yugoslavia's Adriatic coast and inland sites—June 12-July 10.

King Arthur's England: Roman Britain (including Bath), ending with London—July 11-August 1.

Russian Museum Tour: A tour to include Moscow, Leningrad, Kiev, Georgia, with two nights in both Poland and Finland—September 12-October 3.

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For information: Mrs. Patricia Kilkenny, Room 118 SI, Smithsonian Institution, Washington, D.C. 20560.

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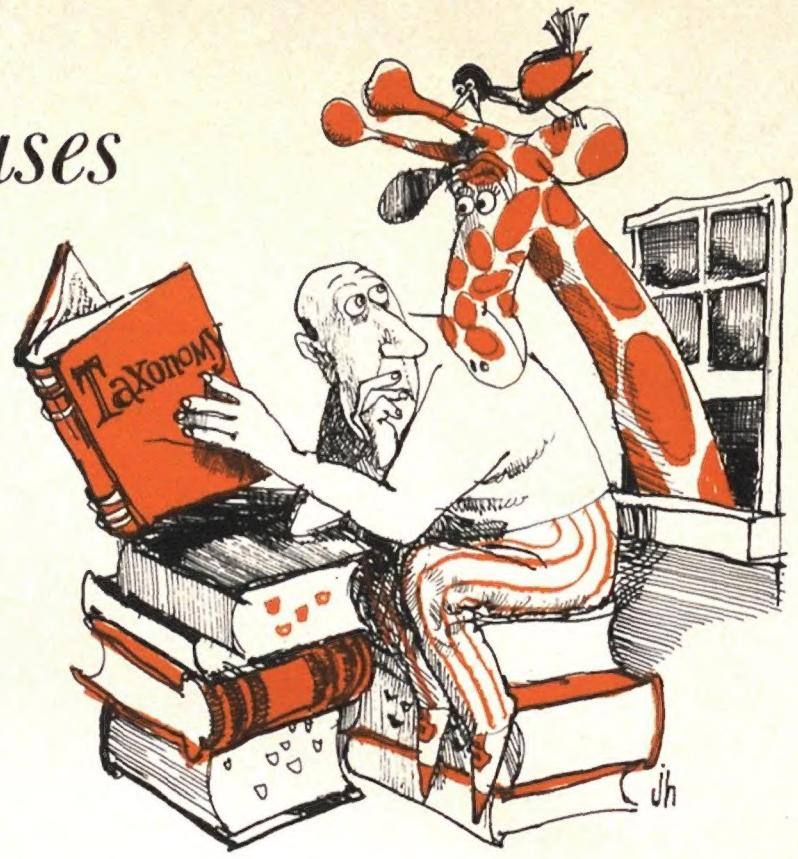
By Patrick Ryan

Your happy taxonomist uses 39 words to say 'dog'



According to Genesis, "God made the beast of the earth after his kind, and cattle after their kind, and every thing that creepeth upon the earth after his kind: and God saw that it was good." But not good enough for the taxonomists who have grieved ever since because the Good Lord didn't hand them down a biological card index. Devotees of their science of the classification of living things down through Noah (who recorded only mixed doubles), Dioscorides, Tournefort and the definitive Linnaeus, strove to bring systematic order to divine chaos.

The compulsively tidy minds of taxonomists have ever been irked because flora and fauna would not fit indubitably into family trees or life-organization charts. The rudderless plight of taxonomy has lately been examined in an article in *Science* by Doctors Peter H. Raven, Brent Berlin and Dennis E. Breedlove.

A basic trouble with taxonomy, according to the trio, is proliferation, inaccessibility and evanescence of life forms. Although it is reckoned that in the history of evolution about 100 million species of animals and plants have inhabited the Earth, most of them have carelessly gone extinct, leaving only some ten million existing species. And of these we have only managed to classify, even at the sketchiest level, around 10 to 15 percent. With the small number of taxonomists available, our authors doubt if even another five percent of the existing organisms can be classified before pollution, exploration and development render many of the remaining 80 percent extinct.

And so complex has become the recording process, developed from folk taxonomies, that its operators tend to finish up knowing more about the intricacies of the system of classification than they do about the living things they're classifying.

The extent of this paradox may be judged from the current use by some schools of stratification of up to 21 levels of hierarchy in the classification of any large group of mammals. Thus, for example, the complete taxonomic identification of your pet dog would require 19 levels of description from Kingdom Animalia, Subkingdom Metazoa, Phylum Chordata, Subphylum Vertebrata . . . and so on down through a dozen more rankings to Genus *Canis,* Subgenus (none) and finally Species *Canis familiaris.*

I am by nature the last chap to carp at a taxonomist, but it does seem a bit extravagant to use 19 levels, 39 words, and around 300 letters to come up with the fact that what's just bitten you is indubitably a three-letter word, dog. No wonder Doctors Raven, Berlin and Breedlove are perturbed about the adequacy of our present taxonomic system and just where its addicts are heading.

Fears cannot be stifled that the road toward systematic perfection could well lead only to the headshrinker's chaise longue. It cannot make for peace of mind to labor away trying to catalog all terrestrial life into a score or more pigeonholes while some 20,000 newly discovered species are being described a year, adding to your work load and erasing a sizable portion of those you've just codified.

Neither can it be encouraging to a taxonomist's ego to realize that of the roughly 1.3 million species his industry has so far codified, some 650,000 are insects, 300,000 are plants, roughly 350,000 are variegated creatures, and just one little one is *Homo sapiens.* Enough to make any outnumbered naked ape doubt if he really was made in God's image.

Dread uncertainty about this has afflicted me ever since my daughter, at five years of age, came home from her first day at Sunday School and treated me to a dose of infant taxonomy. Unwinding her cocoon of scarves, she surveyed me as if she were buying me in a slave market.

"God made me," she said at last. "Who made you?"

Her tone indicated that she could appreciate God spending some time on herself, but she wondered just what small-time operator had clapped together Caliban, the aardvark and me.

"Well," I said, smiling hopefully, "I suppose God made me as well."

At which she laughed like a wife and went off to steal food. Ever since I have shaved my face without courtesy of mirror lest I should catch sight of Quasimodo, Kali or Mr. Hyde setting in. It shouldn't even happen to a taxonomist.

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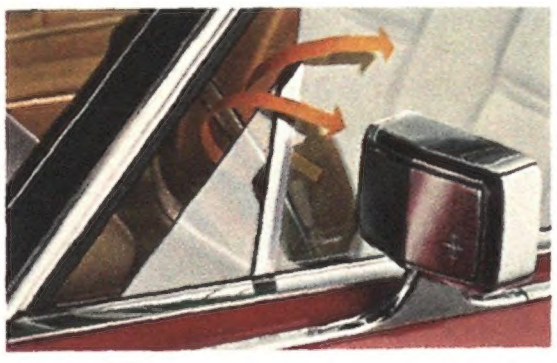

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